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# The impact of psychological reactance and desire for control on perceptions of common elements of cognitive, affective, and behavioral \*change

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THE IMPACT OF PSYCHOLOGICAL REACTANCE AND DESIRE FOR CONTROL  
ON PERCEPTIONS OF COMMON ELEMENTS OF COGNITIVE, AFFECTIVE,  
AND BEHAVIORAL CHANGE

by

Morgan E. Williams, M.C.P.

A Dissertation Presented in Partial Fulfillment  
of the Requirements for the Degree  
Doctor of Philosophy

COLLEGE OF EDUCATION  
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We hereby recommend that the dissertation prepared under our supervision  
by Morgan E. Williams

entitled The Impact of Psychological Reactance and Desire for Control  
on Perceptions of Common Elements of Cognitive, Affective, and  
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## Abstract

The present study was designed to assess the impact of two dispositional variables, psychological reactance and desire for control, on individual perceptions of common elements of psychological change. These common elements represent cognitive, affective, and behavioral aspects of psychological change. The study tested whether individuals with different levels of psychological reactance and desire for control systematically differed in their perception of the importance of elements relevant to psychological change. Participants ( $N=420$ ) completed three self-report assessment instruments: (a) the Common Elements of Change Questionnaire, (b) Hong's Psychological Reactance Scale, and (c) the Desirability of Control Scale. As hypothesized, results indicated that those high in psychological reactance and desire for control differed significantly from those low in psychological reactance and desire for control in their perception of the importance of a dimension of change labeled Cognitive and Affective Self-Experience. Specifically, those high in psychological reactance perceived Cognitive and Affective Self-Experience to be more important or necessary to the process of change than those low in psychological reactance. Likewise, those high in desire for control perceived Cognitive and Affective Self-Experience to be more important or necessary to the process of change than those low in desire for control. Also as hypothesized, the author found a statistically significant relationship between psychological reactance (as Freedom of Choice) and desire for control (as Avoidance of Dependence), supporting the notion that these two variables similarly assess one's

motivation to exercise personal control. These findings indicate that psychological reactance and desire for control are likely to impact one's perceptions of psychological change. The present study has potential applied psychotherapeutic significance since mental health professionals could use information concerning individual differences in client's perceptions of change to positively influence the process and outcome of psychotherapy.



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## CHAPTER 1

### Introduction

A central task of psychotherapy is to assist clients in making adaptive changes. Extensive studies of psychotherapy outcome have demonstrated that people can, in fact, experience positive changes with the help of professional treatment (Lambert & Bergin, 1994; Lambert, Shapiro, & Bergin, 1986; Smith, Glass, & Miller, 1980). However, such outcome studies have provided very little insight into exactly how people change with psychotherapy (Rice & Greenberg, 1984). Lyddon (1990) has indicated that inquiry into the nature and process of change is fundamental to the domains of counseling and psychotherapy. From a clinical standpoint, further investigation into the nature and process of change could provide valuable information that would enable the facilitation of more effective therapeutic interventions.

One means of investigating the nature and process of change is through an examination of how people perceive intraindividual change. The present study will explore facets of positive, constructive intraindividual change through an examination of perceptions of change and the psychological characteristics that influence such perceptions. Certain psychological characteristics are likely to have some degree of impact on one's orientation to the process of change and the beliefs that one maintains regarding adaptive or behavioral change. Such beliefs could possibly influence the manner in which a client approaches treatment and, thus, the way he or she progresses

in treatment. Since no two individuals are precisely alike, all individuals may have somewhat different perceptions and expectations of the conditions that are required for psychological change to occur. In a therapeutic context, such differences become significant. Dissimilarity in therapist and client perceptions and expectations of change could result in client resistance to therapeutic efforts or interventions. The recognition of core or common elements of psychological change together with insight into one's perceptions of those elements could possibly offer fresh insights into common change processes.

Dowd, Milne, and Wise (1991) contend that it is, perhaps, time to consider the effect of finer-grained client psychological characteristics on the process and outcome of psychotherapy. Furthermore, a detailed investigation of client characteristics that impact therapeutic outcomes could possibly yield important information (Dowd, et al., 1991). Two psychological characteristics that have the potential to impact therapeutic processes are psychological reactance and desire for control. Psychological reactance is a motivational force directed toward the restoration of freedoms (i.e., perceived free behaviors) that either have been or are perceived as being eliminated or threatened with elimination (Brehm, 1966; Brehm & Brehm, 1981). A freedom can be defined as a belief that one can engage in a particular behavior (Brehm & Brehm, 1981). Desire for control is a general desire or need for control over the events in one's life, or the extent to which individuals generally are motivated to see themselves in control of the events in their lives (Burger, 1992).

An examination of the impact of psychological reactance and desire for control on individual perceptions of change might yield important information relevant to

therapeutic processes. If psychological reactance and desire for control influence one's perceptions of change, then these two variables may ultimately impact therapeutic processes. Therapists could possibly facilitate more effective therapeutic interventions by taking individual differences in reactance and desire for control into account when planning treatments for their clients. Likewise, consideration of a client's perception of the necessary elements of psychological change has the potential for facilitating an optimal course of treatment by contributing to a stronger therapeutic alliance and a smoother, more efficient execution of techniques. Therapy sessions might be more productive and cost-effective as a result. Therapist utilization of client dispositions is consistent with the credulous approach referred to by Kelly (1955), whereby the therapist takes a client's perspective seriously and respects it, even though he or she may not choose to be bound by it. Here, acceptance is understood as a willingness to utilize the client's own personal knowledge system, while not necessarily being encapsulated by it (Neimeyer, 1993).

From a scientific standpoint, there are no single, simple answers for understanding the complexities of human life and the processes of change (Mahoney & Patterson, 1992). However, a clearer understanding of (a) the ways in which humans perceive change and (b) the factors that influence one's perceptions of change has the potential for clarifying the dynamics of a client's presenting problem, enhancing the therapeutic process in general, and improving therapeutic outcomes.

#### Statement of the Problem

Clients are likely to enter therapy with diverse perceptions and expectations concerning both the therapeutic process and the conditions necessary for the realization

of psychological change. Moreover, client perceptions and expectations may not always be identical or even similar to those of the therapist. Such dissimilarity could possibly impact the therapeutic process by reducing the effectiveness of treatment interventions. Talmon (1990) noted that even small changes in perception, feelings, or behavior might lead to exposure to new life circumstances, thereby initiating new reactions by the client. These reactions could be either positive or negative depending on the nature of one's expectations and motivational disposition. Clearly, one's perceptions are likely to have a great impact on the effectiveness and success of the therapeutic encounter.

Therapists typically strive toward facilitating both attitudinal and behavioral change in their clients. Recognizing a client's orientation to the process of change might provide a baseline from which to effectively begin therapy. Failure to recognize a client's notion of change could possibly impede the therapeutic process and, thus, reduce the likelihood of positive treatment outcomes. For example, gaining insight into problem behaviors might seem more relevant to the process of change for one individual, while directly changing particular problem behaviors might seem more relevant to another. More specifically, if a client's perception of psychotherapeutic change initially involves gaining greater awareness or insight into problem behaviors, then certain behavior therapies that are based on altering relationships between overt behaviors and their consequences might not be the most effective initial choice. Likewise, if a client's perception of psychotherapeutic change initially involves the notion of problem behaviors being changed, then Gestalt therapy might not be the most effective initial choice since the goal of Gestalt phenomenological exploration is awareness, or insight. Both theoretical approaches are appropriate means for ultimately resolving problem behaviors, but the

baseline from which each client expects to begin work on the problem behaviors may be quite different depending on the client's perception of the nature of psychological change.

Therapists might enhance therapeutic interventions by better understanding the ways in which their clients perceive both psychological change and the therapeutic process. Such understanding involves establishing whether individuals identify with certain prerequisite variables or common elements of change more than with others and, likewise, whether certain variables are more influential than others. Hanna and Ritchie (1995) have indicated that further research might reveal the wisdom of providing education to clients about prerequisite variables and other common elements of change. This education could help clients better understand psychological change and possibly stimulate motivation and involvement in the therapy process.

The process of psychological change, whether inside or outside psychotherapy, often tends to be stressful and pervasively emotional (Mahoney, 1991). Moreover, the course of therapy often oscillates between apparent client desire to change and client failure to change (Dowd & Seibel, 1990). Mental health professionals often associate failure to change with subtle overt opposition to their efforts, generally described as resistance. Pope (1979) defines resistance as a process of avoiding or diminishing the self-disclosing communication requested by the interviewer because of its capacity to make the interviewee uncomfortable or anxious. According to Dowd (1989), resistance tends to be situation-specific in that it is generated from a particular life situation. Likewise, Mahoney (1985) notes that resistance to change is seen as largely situation-specific and serves a natural function in protecting the core cognitive organization from changing too rapidly.

Psychological reactance (Brehm, 1966; Brehm & Brehm, 1981) and desire for control (Burger, 1992) are seen as characterological variables that can affect client resistance in therapy. The expression of resistance by an individual who is either highly reactant or has high needs for control is likely to have a significant impact on the therapeutic process. For example, within the context of therapy, individuals are typically struggling with the notion of relinquishing at least some control to the therapist and therapeutic encounter in order to improve functioning in some area of their life.

Psychological reactance is likely to be an intense experience (Brehm & Brehm, 1981), and a client who perceives that freedoms are being eliminated is likely to feel anxious, angry, and possibly depressed (Brehm & Brehm, 1981). Likewise, reactance presumably includes a strong urge to take action in order to restore a freedom that is perceived as being threatened, and this urge may be accompanied by feelings of hostility (Brehm & Brehm, 1981). In some instances, an individual may even deliberately choose to fail in order to maintain the illusion of control and personal choice (Dowd, 1976).

Burger (1992) reports that those high in desire for control are much more likely to interpret another person's actions in terms of control, possibly perceiving such actions as a threat to their ability to control the events in their own lives. Additionally, some individuals high in desire for control strive to maintain the perception that they develop their attitudes and make choices because they freely choose to do so, not because they succumb to pressure (Burger, 1992).

Unfortunately, the fundamental interpersonal structure of the therapeutic encounter may inadvertently serve to evoke both reactance and desire for control in clients. Burger (1992) has noted that while it is not surprising to find that those high in desire for control

react to direct efforts to change their attitudes, such individuals also seem more likely to interpret relatively innocent actions (e.g., offering assistance) as a threat to their self-determination. This paints a picture of those high in desire for control as constantly on guard in order to avoid relinquishing control of any aspect of their life to others (Burger, 1992). Lack of insight into a client's orientation to change could possibly potentiate their capacity for reactant behavior and need for control. The result is likely to be a situation that is frustrating to both the client and therapist, as well as a weak therapeutic alliance in which interventions are much more difficult to initiate.

Therapeutic interventions in which techniques are tailored to fit the client's perception of change could possibly be more effective by decreasing the likelihood of resistance. If client resistance to therapeutic interventions can reduce the effectiveness of such interventions, then strategies could be implemented to avoid or at least minimize client resistance. Although it is not likely that a given strategy will apply to all problems and under all circumstances, Lyddon (1990) has noted that too often therapists' conceptual filters tend to restrict the range of options for both themselves and their clients. This restriction of options can sometimes be counterproductive in therapy, where a helper should become part of a client's system and use this standing to become a context for psychological change (Efran, Germer, & Lukens, 1986). The consideration of a client's perception of change could possibly be a way for the therapist to become more a part of the client's system. Without appropriate client-therapy matching, the client is likely to be less at ease with therapy and may put less effort into treatment goals, since the goals are inconsistent with his or her own personal beliefs concerning psychological



change. As a result, the probability of achieving treatment goals may be lower, and the motivation to exercise personal control may be higher.

In summary, the problem addressed in the present study lies in the possibility that individuals high in psychological reactance and desire for control perceive certain elements of change differently than those low in psychological reactance and desire for control. Since perceptions of change, psychological reactance, and desire for control are so salient in the therapeutic encounter, their influence has the potential to profoundly impact therapeutic interventions. Moreover, the dimensions used by clients and therapists in perceiving change might be significant for the outcome and process of therapy. An investigation is necessary in order to better understand the relationships between these variables and processes so that positive treatment outcomes can be more effectively facilitated.

#### Statement of Purpose

One purpose of the present study is to determine the extent to which one's level of psychological reactance and desire for control is related to his or her perception of fundamental elements of psychological change. Information is presented concerning whether one's motivation to exercise personal control (as operationalized by the assessment of psychological reactance and desire for control) is related to the way in which one construes or perceives change. Collected data are analyzed to determine whether individuals differing in respective levels (e.g., high vs. low) of psychological reactance and desire for control also systematically differ in their perception of change. The relationship between psychological reactance and desire for control is also examined.

The present study will also determine whether individual factors of psychological reactance and desire for control are more related to specific dimensions of psychological change. An examination of individual factors of psychological reactance and desire for control along with their relationship to perceptions of change is conducted. Presently, the underlying dimensions of psychological reactance and desire for control have not been confirmed in the literature. Since psychological reactance and desire for control are possibly multidimensional constructs, an analysis is conducted in order to examine the individual factors of reactance and desire for control in relation to the perception of change.

Another purpose of the present study is to provide practical and useful information to mental health professionals. For example, the ability to estimate a new client's level of psychological reactance or desire for control (e.g., high vs. low) could aid the therapist in determining such things as the client's propensity for resistance, motivation for therapy, and so forth. Moreover, a determination could be made as to whether particular dimensions of change are more influential and whether a client identifies with certain elements of change more than with others based on their potential for psychological reactance and desire for control. Such insight could also help therapists decrease the possibility of their motives being misinterpreted by those high in reactance and desire for control. This could create a therapeutic environment conducive to positive outcomes, thus increasing the effectiveness and success of the therapeutic encounter. Additionally, an understanding of the ways in which those clients that are highly reactant or have high needs for control perceive both psychological change and the therapeutic process might prove beneficial. The information could aid in the construction of treatment interventions

and provide a baseline from which to begin therapy. According to Hanna and Ritchie (1995), an assessment of the presence of common elements of change might assist in case conceptualization and suggestion of an optimal course of treatment. Moreover, shifting some attention to encouraging selected dimensions of change early in therapy might also have the net effect of making remaining therapy sessions more productive, thereby increasing the likelihood of attitudinal or behavioral change.

### Review of Related Literature

Goldfried (1980) notes that there exist certain timeless truths, consisting of common observations of how people change. According to Goldfried, these observations date back to early philosophers and are reflected in great works of literature. Over the last few decades, the search for basic principles and processes of psychological change has been accompanied by further inquiry into the nature of change itself (Bateson, 1979; Lyddon, 1990; Rice & Greenberg, 1984; Watzlawick, Weakland, & Fisch, 1974). Moreover, recent trends of conceptual development in counseling and psychotherapy reflect a growing interest in understanding the fundamental principles and processes of psychological change (Bandura, 1977; Frank, 1985; Goldfried, 1980; Highlen & Hill, 1984; Lyddon, 1990; Mahoney, 1985; Prochaska & DiClemente, 1982).

### The Nature of Change

The process of change is essential to the adaptation and adjustment of all organisms. von Bertalanffy (1968) noted that an entity continuously interacts with its environment, both seeking and resisting change. According to von Bertalanffy, organisms do not merely passively react to stimuli but instead demonstrate equifinality, whereby they autonomously initiate creative activity in order to reach a given final goal from different

initial conditions and in different ways. Some changes are objectivistic (i.e., directly observable or measurable) in nature and readily apparent, such as changes in matter. Other changes are more subjectivistic (i.e., not directly observable or measurable) in nature. Subjectivistic changes may be subtle and sometimes occur with no directly observable signs, such as the changes pertaining to internal psychological processes. The fundamental nature of psychological change and those principles and processes associated with psychological change in humans are largely subjectivistic phenomena. Consequently, psychological change in humans tends to be relatively difficult to define, operationalize, and measure.

The process of psychological change is primarily a subjective rather than objective process. Moreover, an attempt to quantify process-oriented constructs of psychological change would likely prove to be a formidable task. Unfortunately, without the ability to operationalize psychological change, one's efforts to gain a clearer understanding of human psychological change and change phenomena in general can be frustrating. Two opposing methods of addressing the problem of conceptualizing and assessing individual psychological change are the subjectivistic (cf., mentalistic) and objectivistic (cf., physicalistic) approaches. The implications of the differences of these approaches are far-reaching. Skidmore (1975) notes that the subjectivistic-objectivistic dichotomy suggests two fundamentally opposite methods of theoretically treating individuals. The objectivistic method views individuals and human society as basically similar to other aspects of the physical world and asserts that an individual's actions should be explained in the same manner as any other aspect of the natural world (Skidmore, 1975). The subjectivistic method maintains that, fundamentally, an individual's behavior must be

understood in human terms and that it is fruitless to begin with knowledge about humanity and, in effect, try to explain away this humanity in objective terms (Skidmore, 1975). Ostensibly, if one slips from one side to the other of the subjectivistic-objectivistic dichotomy in an effort to explain all, there is a possibility that the mixture of concepts and procedures developed as a theory will be muddled and prove more confusing than enlightening. Hence, there are both paradox and difficulty in examining human change processes. Garfield and Bergin (1994) note that the growing literature on values, hermeneutics, and qualitative research offers a reminder that the quest for a technology of change might be somewhat misguided, since psychological change actually reflects processes that are deeply human and not merely the result of technical processes or "mechanisms" of change.

#### Human Capacity for Change

Neimeyer (1993) has stated that on one hand, life changes are endemic to being human, but on the other hand, being human necessitates resisting change, at least insofar as that change threatens the consistency and continuity of core aspects of the self. This is indeed relevant to psychological change. Kelly (1969, p. 156) characterized threat as

the experience that occurs at the moment when we stand on the brink of profound change in ourselves, and can see just enough of what lies ahead to know that so much of what we are now will be left behind forever once we take the next step.

Psychotherapeutic change affects the way in which individuals view themselves and life, and these intraindividual changes in turn influence families, social structures, and lifestyles. Understanding these issues is not so difficult when there is widespread agreement about values and the goals of treatment, but difficulties do arise (e.g., therapist

and client incongruity) when there are differences in perspective as to what actually constitutes desirable psychological change (Garfield & Bergin, 1994).

Both therapist and client are conjointly responsible for the success of the therapeutic encounter. However, within the therapeutic process there are numerous powerful determinants of psychological change and success that therapists should be aware of in order to be as effective as possible (e.g., therapist skills, client level of functioning, beliefs, values, nature of problem, etc.). Mahoney and Patterson (1992) have indicated that it is especially important for those in the helping professions to examine their personal beliefs about human change and those factors that account for change in psychotherapy. Assumptions about human change processes strongly influence efforts to understand and to help others. Friedman (1974) has noted that theories carry with them assumptions about human nature and the possibility of change. These "hidden human images" are seldom clearly stated. Rather, they are tacit and generative rules to be used in constructing experience. Furthermore, Mahoney and Patterson indicate that these tacit rules influence the understanding and facilitation of human change in ways that are seldom clearly stated and only recently appreciated.

Theoretical foundations of the various systems of psychotherapy are quite diverse. For example, psychoanalytic theory maintains that humans have extremely limited possibilities for change (Freud, 1917). Conversely, behaviorism maintains that humans have virtually unlimited possibilities (Watson, 1924). Both views are, perhaps, extreme. The present study is based on the premise that humans exhibit an enormous capacity for psychological change but are not limitlessly moldable, teachable, and receptive. For most

individuals, such core beliefs as those involving reality, values, identity, and power seem to be most resistant to change (Mahoney, 1991; Mahoney & Patterson, 1992).

### Intraindividual Change

Intraindividual variables of change (e.g., psychological characteristics) appear to be the most crucial elements of therapy (Bergin & Lambert, 1978; Lambert, 1992; Mahoney, 1991). The present study is concerned with the ways in which the intraindividual variables of psychological reactance and desire for control influence one's perceptions of change. The study is based on the notion that humans are thinking, planful agents that assess and act upon their environments (Pervin, 1989), and that individuals understand their changes from the perspective of phenomenology and volition. Phenomenology infers that genuine knowledge is the product of that which is immediately evident in the experience of the perceiver – the subjective reality of an individual (Adler, 1964; Perls, 1973). According to Husserl (1968), phenomenology relates psychological experience and the physical data it supplies to an individual's immediate experiences. Volition is the act of making a choice or decision – the power of choosing or determining (Borgen, 1992).

Although intraindividual change within the context of therapy has been referred to most frequently thus far, change also occurs within a number of other contexts including interpersonal systems (e.g., family), organizational systems (e.g., educational, occupational), and cultural systems. Psychological change at each of these levels is affected by (and affects) intraindividual change. For example, Kuhn (1970) developed a cultural model of change within the social institution of science. Kuhn noted that scientific revolutions are typically preceded by a period of "crisis," when well-accepted

paradigms simply do not work as well as they once did. Kuhn's model is analogous to intraindividual change within clients. When old behaviors cease to work as effectively as they once did, one will typically enter a period of crisis. During this period, clients too will struggle with the reality that well-accepted paradigms simply do not work as well as they once did. This is the point at which individuals examine the possibility of change and many times alter their perceptions of the world as a result of corrective experiences. This is also the point at which insight into the processes of change and the way in which individuals perceive psychological change could benefit both the therapist and client.

### Kinematics of Change

The dynamics of those aspects of motion apart from considerations of mass and force are referred to as kinematics (1997). The kinematics of change are meaningful, since every moment of life is likely to involve some demand to change. Such demands can include physical, mental, or emotional processes. For the purposes of the present study, change is considered synonymous with the concept of second-order, as opposed to first-order, change. First-order change is any change in a system that does not produce a change in the structure of the system, and second-order change is a type of change that alters the fundamental structure of the system (Beevar & Beevar, 1988; Lyddon, 1990; Watzlawick, et al., 1974). In the present study, psychological change refers to the alteration of personality or underlying belief structures, or second-order change.

Some situations necessitating change require individuals to react to the demand with more effort than do others. This can be particularly true during the therapeutic process. There is general agreement that a "good" therapy client is characterized by sufficient distress to be motivated for treatment and by the capacity to profit from a helping



relationship (Corey, 1991). Likewise, those who manifest anxiety in relation to their current situation or stress appear to secure better therapeutic outcomes (Smith, Sjöholm, & Nielzen, 1975). However, a distressing situation might be perceived as being so threatening and intimidating that a client could possibly feel overwhelmed and immobilized. Immobilization may occur in clients who are passive and indecisive due to a low potential for reactance and desire for control. However, even though an individual might feel immobile, psychological change may be occurring nonetheless. When the situational demand to change is perceived as being unattainable or overwhelming, the client is likely to exhibit resistance to the therapeutic effort. The expression of resistance by a client who is high in reactance or desire for control is likely to result in manipulation, aggression, and defensiveness, thereby negatively impacting therapeutic processes and, thus, treatment outcomes.

In such instances, a therapist might also feel overwhelmed and presume that the therapeutic process itself has become immobilized. Although therapists will sometimes indicate that a client gets "stuck" during the therapeutic process, an individual is never really likely to be stuck in therapy. Lyddon (1990) has noted that second-order change tends to be a relatively unpredictable process with respect to the way it occurs and the amount of time it takes. Although the therapeutic process may not be progressing as desired, some degree of change (e.g., cognitive, affective) is likely to be occurring. Being stuck suggests a resting place, but the process of change is a dynamic one and never static.

### Autopoiesis

Humans continually organize and reorganize themselves in order to maintain their viability as a system. This process, known as autopoiesis (Jantsch, 1980; Maturana & Varela, 1987), allows individuals to keep a sense of themselves as a coherent entity in the face of both changes within themselves and interactions with an ever-changing environment. Examples of autopoietic activities can be seen in Piaget's (1970, 1981) conceptualization of adaptation, which includes the complimentary processes of assimilation and accommodation.

Adaptation is Piaget's (1970, 1981) term for the way in which a person addresses the acquisition of new information. An individual can assimilate new information if it is sufficiently congruent with constructs that are already in place. For example, if new information is incongruent with one's perception of change, then the individual as a system must modify itself in such a way as to allow for the accommodation of the new information. Successful accommodation of new information in those high in reactance and desire for control is likely to result in less resistance to the therapeutic process. Thus, the processes by which one maintains stability and the processes by which one changes are part of the same dynamic system (Mahoney & Patterson, 1992). Lyddon (1990) notes that assimilation is a type of first-order change involving the integration of moment-to-moment experience into existing cognitive structures. Accommodation is a second-order change process whereby proactive or developmental change in cognitive structures occurs (Lyddon, 1990). According to Piaget, equilibrium is pursued on a higher developmental level if accommodation is successful.

As the dynamic process of adaptation proceeds during the therapeutic process, experienced therapists know that what one sees, observes, or elicits from a client does not always indicate that change has or has not taken place within the client. Cavanagh (1990) has noted that, occasionally, clients will give therapists the false impression that all is well. In this case, observable behaviors can be deceiving. As part of the change process, clients may act out newly acquired behaviors that are more acceptable. By doing so, a client high in psychological reactance may appear to be more accepting of the loss of a freedom. Likewise, a client that is high in desire for control may appear to be more accepting of their inability to exercise control. However, this does not necessarily indicate that meaningful, personal change is occurring. The acting out of newly acquired behaviors may, instead, simply be a step in the change process that could be thought of as progress, or perhaps even as regression. A therapist's and client's reciprocal understanding of those dimensions involved in the change process could facilitate a better understanding of the client's current level of functioning and the dynamics (e.g., reactance and desire for control) taking place during the therapeutic encounter.

### Homeostasis

One reason for the initiation of change is for the purpose of maintaining some degree of equilibrium. Homeostasis is a process by which an organism tries to maintain an internal balance or equilibrium (Feldman, 1996). In other words, one will tend to regulate oneself so as to maintain a constant internal environment in response to changes in the external environment. The desire to regulate oneself is one reason that an individual might enter therapy. However, even when there is a genuine desire for change within an individual, there is also likely to be some degree of resistance due to core aspects of the

self being threatened by the prospect of change. Discordance between one's ongoing reality (i.e., the prospect of change) and existing cognitive structures may lead to cognitive and emotional conflict, or a moment of disequilibrium. By showing consideration for a client's notion of change, the therapist could possibly eliminate undue distress, thereby decreasing the expression of reactance and desire for control in those clients so predisposed. Differences in perceptions of change and, thus, expectations concerning the therapeutic encounter might seem overwhelming to those high in psychological reactance and desire for control. Cognitive and emotional conflict due to such differences could lead to dominant, defensive reactions by the client.

Individuals typically strive for optimal comfort through a state of homeostasis once they comprehend that they have a new set of parameters within which to operate. If an individual is uncomfortable (physically, emotionally, or cognitively), he or she will devise a plan of action to ease as much discomfort as possible. This may include a striving for balance between the individual and the demands of the therapeutic process, and a balance between the individual's own cognitive structures. The need for equilibrium leads one to shift from assimilation to accommodation. For example, when a highly reactant individual finds that old, familiar reactant behaviors are no longer as useful or successful as they once were, the individual may promote accommodation by initiating new behaviors.

Discomfort can also be motivating. Generally speaking, some degree of discomfort is necessary for change to occur, and such discomfort is probable during the therapeutic process. Tailoring treatment efforts to the individual perceptions of clients should decrease undue discomfort during the therapeutic process, thereby leading to more

effective treatment outcomes. An individual is likely to examine the utility of any proposed change. The utility is the subjective value an individual places on the expected outcome of the proposed psychological change. Fear or avoidance of discomfort are forces that drive one to seek solutions to problems in an effort to maintain homeostasis.

### Social Cognition and Change

Cognitive structures and processes affect the way in which individuals collect information, make judgments, and ultimately, how they approach the process of psychological change. Comprehension and the creation of meaning are cognitive processes germane to significant, long-term change. For instance, a client who presents with a deep sense of hopelessness must, at some point, be able to perceive or imagine possibilities if hope is to be instilled where there is none. In order for the client to comprehend the possibility of change, his or her expectations concerning the processes and elements of change should be congruent with that of the individual facilitating such change.

According to Leahey and Harris (1997), meaning is not simply an inherent property of some stimulus, but instead an emergent property of the interaction of the stimulus and the mind of the comprehender (e.g., one's "expectation" of change). In this sense, the construction of meaning is important in identifying how maladaptive ways of processing information can be altered. For example, information that is interpreted as relevant (or diagnostic) is typically considered, while information that is interpreted as irrelevant (or nondiagnostic) is ignored. More precisely, there is the intent to ignore the irrelevant information. The likelihood of maladaptive information processing could possibly be decreased through the consideration of a client's perception of change. Information

concerning psychological change is more likely to be interpreted as irrelevant (or nondiagnostic) if it is inconsistent with the client's perception of change. Moreover, information deemed irrelevant by individuals high in psychological reactance or desire for control might result in dominant, aggressive responses to therapeutic interventions. Respecting a client's perception of change may reduce the degree of maladaptive processing, thereby contributing to a stronger therapeutic alliance.

Leahey and Harris (1997) note that meaning only arises as one constructs an interpretation of some stimulus, and the meaning that one individual constructs may be somewhat different from the meaning that another comprehends from that same objective stimulus. One example is therapist and client dissimilarity in the perception of psychological change. Moreover, Epstein and Erskine (1983) have suggested that individuals build implicit theories to organize their perceptual worlds. Steenbarger (1991) has noted that these theories are the mediational interface between person and environment, much as Kuhn's (1970) paradigms mediate the relationship between scientist and nature.

The models of constructivism, attribution theory, and cognitive dissonance present theoretical viewpoints on psychological change. The theories are relevant to the present study since therapeutic interactions are likely to be affected by perception, information processing, and individual construction of experience, all of which are addressed by these theories. The theories will be briefly reviewed in order to examine ways in which humans build implicit models of change; construe the meaning of change; and consequently effect change in the cognitive, affective, and behavioral domains.

Constructivism. Problems and obstacles can be construed as gaps that separate a person's present state from his or her goal state (Mahoney & Patterson, 1992). Problems may be construed as discrepancies between an individual's current capabilities and the demands imposed by that individual's environment. The constructivist viewpoint asserts that realities are constructed from the inside out by one's thinking (Borgen, 1992). The construction of mental representations of a problem is a comprehension process (Leahey & Harris, 1997) and very much a part of the process of change. Problems can be valuable sources of information about an individual's construction of self, the world, and how the two relate. It is interesting to note that what is considered problematic for a client today might well have been the best possible adaptation of that client at an earlier time. Lyddon (1990) notes that constructivists tend to conceptualize problems as developmental challenges that are typically accompanied by episodes of emotional disequilibrium. Although emotional disequilibrium is always possible during the therapeutic process, consideration of an individual's perception of change may be one way to limit any undue stress that might affect therapeutic interventions.

Constructivists view behavior as a blend of two ways of dealing with reality: changing the self when the environment cannot be controlled, and changing the environment when control is possible (Kimble, 1994). An attempt to change the environment by one high in psychological reactance could result in defensive, dominant behaviors. Conversely, Brehm and Brehm (1981) note that a person will give up a freedom when it is clear that there is no way to recover it, or when the environment cannot be controlled. Those high in desire for control may attempt to exercise personal control over the therapeutic process. Both are means of addressing the therapeutic

process when attitudinal or behavioral change seems overwhelming. The prospect of psychological change is likely to seem overwhelming to a client if he or she perceives the conditions necessary for such psychological change differently than the therapist.

Kelly (1955), in his constructivistic Personal Construct Theory, viewed individuals as scientists attempting to understand, predict, and control events. Within the constructivist tradition, Mahoney and Patterson (1992) have noted that humans are self-organizing systems that have the capacity to transform their basic structure and functions when they are sufficiently challenged. Thus, episodes of disorder or disequilibrium are both unavoidable and necessary because they allow such a system to reorganize not always, but preferably, in a more viable fashion. From the constructivist viewpoint, all knowing, learning, and memory can be seen as attempts by an individual to organize and reorganize constructions of experience and action (Mahoney & Patterson, 1992). The pervasive motivational dispositions of psychological reactance and desire for control are also likely to have an impact on such constructions of experience and action.

Attribution Theory. Attribution theory is a collection of limited-domain theories of social cognition that explain the ways in which people make "causal attributions," or explanations for the causes of actions and outcomes. Heider (1958) formally initiated attribution theory, which was further developed by Jones and Davis (1965) and later by Kelley (1967). Attribution theory focuses on how individuals use information in the social environment to formulate causal explanations for events.

Burger (1992) has noted that when compared to those with low needs for control, individuals with high needs for control are more active pursuers of information that will help them understand the causes of their own and other individuals' behavior. Those with



high needs for control attend to attributionally relevant information, ask questions that help them make accurate attributions, and make relatively more attributions for the causes of their own behaviors. Those with high needs for control attribute their behavior to causes that allow them to maintain a sense of control. Thus, those with high needs for control are more likely to use internal attributions, such as ability and effort, to explain the outcome of their endeavors (Burger, 1992).

Although it is important to attend to attributions that clients make about the change process itself, little attention has been paid to client attributions about change processes (Heppner & Frazier, 1992). Heppner and Frazier indicate that attributional retraining could be a promising approach to changing attributions, emotions, and behaviors. One area worthy of attention concerns the attributions that clients make concerning the perception of negative aspects of therapy. Dissimilarity in client and therapist perception of that which is necessary for positive psychological change may evoke psychological reactance or desire for control in a client. Negative repercussions due to the outward expression of these psychological characteristics could impact therapeutic outcomes. The client's explanation for a failure to attain treatment goals is then likely to be directed toward the therapist. Internal attributions concerning the therapeutic process might be increased through the recognition of a client's perception of psychological change. Research suggests that increasing positive internal attributions for the process of psychological change leads to a greater maintenance of attitudinal and behavioral change (Galassi & Galassi, 1984; Sonne & Janoff, 1982).

Cognitive Dissonance. Festinger introduced the concept of cognitive dissonance in 1957. Festinger's claim was that one of the most powerful motives in human life was the

drive for cognitive consistency: the experience of having personal beliefs fit comfortably together and of having one's perceived reality fit comfortably with those beliefs and behaviors. According to cognitive dissonance theory, when two cognitive elements conflict with one another (such as the client experience of conflicting therapist and client perceptions of change), an individual experiences a state of mental discomfort and will attempt to resolve this cognitive dissonance by reconstructing one cognition to conform with the other. Thus, the individual may sometimes automatically resort to distortion in order to resist a challenge to what he or she already believes. Individuals high in psychological reactance or desire for control may experience greater cognitive dissonance during therapeutic interventions in which they perceive inconsistency or dissimilarity in cognitive elements (i.e., perceptions of change). This, in turn, could be an impediment to successful therapy. Likewise, failure to consider the client's perception of change could possibly make the experience of dissonance more salient by enhancing her or his awareness of conflict between cognitive elements.

An individual who makes a decision that is dissonant with previously held opinions, beliefs, or values can reduce the dissonance created by adding more sound cognitions, deleting dissonant ones, or both. As this process advances, feelings both reinforce old habits and warn one that those old habits are not effective. A strong therapeutic alliance in which client and therapist perceptions of psychological change are similar is likely to expedite the positive aspects of this process, possibly decrease the arousal of psychological reactance and desire for control, and thus allow a smoother transition toward positive cognitive, behavioral, and affective change.

### Psychological Reactance and Desire for Control

Two of the most potentially influential dimensions of human behavior with relevance to perceptions of change are psychological reactance and desire for control. The theoretical backgrounds of these two dimensions are central to the present study and will be reviewed since they have implications pertinent to the process of change. The relevance of these two dimensions of human behavior lies in their potential to influence treatment interventions, treatment outcomes, and thus, psychological change.

Psychological Reactance. Reactance theory (Brehm, 1966; Brehm & Brehm, 1981) maintains that individuals experience themselves as possessing "free behaviors" or freedoms that can be engaged in at the moment, or at some future time. The motivational state of psychological reactance will be aroused whenever any of these experienced freedoms are eliminated or threatened with elimination. Individuals are then motivated to reassert or regain the threatened freedom (Brehm & Brehm, 1981). Any event or perception that makes it more difficult for a person to exercise a freedom constitutes a threat to that freedom, with strong threats producing stronger reactance effects than weak threats (Brehm & Brehm, 1981). Due to the nature of the therapeutic process, reactance could be aroused in some, if not all, clients. However, therapeutic interventions may be perceived as being more threatening to psychologically reactant clients, since the therapeutic encounter is likely to inherently involve freedoms being eliminated or threatened with elimination.

Since the primary assumption of reactance theory concerns the motivational consequences of having freedoms threatened, the way that freedoms are perceived has critical implications for understanding necessary and sufficient conditions for the arousal

of reactance (Brehm & Brehm, 1981). Rather than limit freedoms to behaviors, one can define freedoms as expectancies and outcomes over which the individual may or may not have control (Brehm & Brehm, 1981). For example, one might expect to receive a particular positive outcome in a given situation, and for this individual, the expectation constitutes a freedom. When there is a threat to a particular freedom, there also can be an implied threat to future freedoms. As implications for future freedoms increase, so should the magnitude of reactance that is aroused (Brehm & Brehm, 1981). Conversely, decreasing implications for future freedoms or creating future freedoms that are not involved in the present threat should reduce the magnitude of the reactance.

Reactance theory was initially conceptualized as a situation-specific variable (Brehm, 1966). However, since Brehm's original conceptualization of psychological reactance, behavioral scientists have increasingly considered reactance to be more characterological in nature (Brehm & Brehm, 1981; Dowd, et al., 1991; Dowd & Wallbrown, 1993; Jahn & Lichstein, 1980; Rohrbaugh, Tennen, Press, & White, 1981). As an individual difference variable, psychological reactance has implications relevant to the process of psychological change and psychotherapy. Particularly, the way in which reactance may influence one's perceptions and responses to therapeutic interventions.

Dowd and Wallbrown (1993) describe the psychologically reactant individual as aggressive, dominant, defensive and quick to take offense, and autonomous. These individuals tend not to affiliate with others, and they tend to neither seek support from others nor support others. They typically neither describe themselves in favorable terms nor present a favorable representation of themselves to others. They are frequently individuals who are dominant and individualistic, loners that lack strong relations with

others. Reactant individuals also tend to attempt to control events rather than let events control them (Dowd & Wallbrown, 1993). Thus, lack of personal control that is normatively experienced by a client during the therapeutic encounter is likely to be perceived by the psychologically reactant client as a potent threat to personal freedom.

As a motivational state, reactance has two direct effects: it impels attempts to regain lost or threatened freedoms, and it magnifies motivation toward the threatened or lost behaviors and their intended outcomes, making them subjectively more attractive (Brehm & Brehm, 1981). Although reactance is conceived as a motivational state, there is no assumption in the theory that individuals are motivated to have or gain freedom, only that they are motivated to restore freedoms that are threatened or eliminated (Brehm & Brehm, 1981). A threat to freedom is the perception that some event has increased the difficulty of exercising the freedom in question. The source of threats can be external, as when one is subjected to social pressure or when a choice is taken away; or the source can be internal, as when one must choose between two alternatives and thereby eliminate the freedom to have one of them (Brehm & Brehm, 1981).

In order for threats to arouse reactance, a freedom must be perceived by an individual as having some minimal level of importance or a unique instrumental value for the satisfaction of one or more important needs. Freedoms can pertain to what one does, how one does it, or when one does it, and they may concern the accomplishment of attaining a potentially pleasant outcome or avoiding an unpleasant one (Brehm & Brehm, 1981). The freedom in question may, for example, be the freedom to choose one desirable object over another, to choose one behavior over another, or to hold whatever attitude one desires. The specific behavior that results from the reactance state varies

widely, of course, depending upon intraindividual factors, situational events, and the nature of the threatened freedom. In many cases reactance responses involve rejecting an attitudinal position, a behavior, or choice that is being thrust upon the person (Brehm & Brehm, 1981). However, regardless of the specific nature of the reactant response, its central characteristic is that it counteracts the perceived threat to the person's freedom (Brehm & Brehm, 1981).

According to Carver (1981), the reassertion of one's freedom does not go on endlessly. Once the restoration of the freedom has been successfully demonstrated, the reactance state ends. Moreover, while the loss of a freedom should arouse some reactance, the present view of reactance theory emphasizes that a person will give up a freedom when it is clear that there is no way to recover it (Brehm & Brehm, 1981). Presumably, then, the reactance that occurs from the loss dissipates once the freedom has been given up. One's perception of whether a freedom is or is not unequivocally eliminated is what will determine whether reactance continues or ceases (Brehm & Brehm, 1981).

A certain degree of reactance may be seen as a healthy expression of autonomy in adults (Dowd & Seibel, 1990). The magnitude of reactance aroused should be a function of the relative importance of the threatened freedom as compared to the importance of the other available freedoms (Brehm & Brehm, 1981). Generally speaking, since freedoms of low importance generate little reactance when one is threatened, forcing one to give up freedoms of low importance will tend to result in overt compliance. Where freedoms of moderate to high importance are involved, however, the magnitude of reactance can be greater than the force to give up the freedom, resulting in considerable resistance to

compliance (Brehm & Brehm, 1981). The amount of reactance that can be aroused in regard to any given freedom is limited only by the importance of that freedom (Brehm & Brehm, 1981).

The pervasive nature of psychological reactance may influence the perceptions of reactant individuals. As such, a wide range of situations and interactions could be affected since reactance responses many times involve rejecting an attitudinal position, a behavior, or choice that is being thrust upon the individual (Brehm & Brehm, 1981). Likewise, those high in reactance tend to be dominant, defensive individuals that are quick to take offense (Dowd & Wallbrown, 1993). Failure to show consideration for a client's perception of change is likely to more readily evoke a reactance response in those individuals high in psychological reactance. Moreover, the arousal of reactance during the therapeutic encounter has the potential to impact treatment interventions, thereby negatively impacting treatment outcomes.

Desire for Control. Desire for control can be conceptualized as a general individual difference variable that can influence one's perceptions, cognitions, behaviors, and expectations toward life events (Burger, 1992; Burger & Cooper, 1979). Although personal control is often equated with power, Langer (1983) notes that personal control is, in fact, not equivalent to power. Langer (1983) maintains that personal control is a more subjectivistic variable and is less concerned with the current objective state of the external world. The need for control is a dispositional characteristic that remains relatively stable, although aspects of the environment that threaten one's perception of control are likely to change with experience. It should be noted that Burger (personal communication, May 24, 2000) uses the terms "desire for control," "desirability of

control," and "need for control" synonymously, and that all of these terms similarly reflect the extent to which individuals desire to control events in their lives.

Burger (1992) reports that people often are motivated to, or desire to, control the events in their environment, and this motivation plays an important role in human behavior. Although individuals may be motivated to exercise personal control over many of the events in their lives, observation alone indicates that this motive is not present to the same extent in all people. Burger and Cooper (1979) note that the motive to control the events in one's life has been introduced by many psychological theorists. Adler (1930), in his Individual Psychology Theory, proposed a striving to demonstrate one's competence and superiority over events as the individual's major motivational force. Kelly (1955), in his Personal Construct Theory, described humans in terms of being scientists, constantly matching expectancies against perceptions in an effort to obtain optimum predictability and control. McClelland's (1961, 1970) Socially Acquired Needs Theory proposes that the need for power (i.e., need to control others and to have an impact on the environment) is a central motivational force. DeCharms (1968) maintained that the individual typically described as high in need for achievement is someone who derives a sense of intrinsic satisfaction from comparison with others or comparison with a standard of achievement. Achievement motivation can be conceived of in terms of a larger motivational construct. DeCharms identified this larger construct as a desire to be master of one's fate and described a motivation to exercise effective control over oneself, or to be a causal agent.

According to Langer (1983), a belief in personal control may be essential to one's sense of competence and is basic to human functioning. When one's belief in control is



threatened, the result can be severely incapacitating. The need for control is one reason individuals search the environment for information (Heider, 1958) and is the basis for the interpretations given to such information. It is the basis for the attributions utilized to explain human behavior to one's self (Kelley, 1971) and to others (Langer & Dweck, 1973), and to explain the behavior of other people to one's self (Jones & Davis, 1965).

The characterological nature of desire for control has implications relevant to psychotherapy and the processes of change. For example, desire for control has the potential to impact the therapeutic encounter and, thus, treatment outcomes. According to Burger and Cooper (1979), those with high needs for control can be described as assertive, decisive, and active. They generally seek to influence others when such influence is advantageous. They prefer to avoid unpleasant situations or failures by manipulating events to ensure desired outcomes. They usually seek leadership roles in group situations. Those with low needs for control can be described as nonassertive, passive, and indecisive. They are less likely to attempt to influence others and may prefer that many of their daily decisions be made by others (Burger & Cooper, 1979).

All things being equal, people probably prefer exercising control over not exercising control (Burger, 1992). Those with high needs for control tend to approach most events by asking themselves whether they will be able to control what happens (Burger, 1992). They are not content to accept what life casts their way, but rather are highly motivated to influence their worlds. Those with high needs for control generally desire to demonstrate to themselves that they are capable of effectively exercising control over their environments. When their high need to exercise control comes into conflict with the realities of the world, those with high needs for control may experience more stress and

more depression than those with low needs for control. Concerning the negative effects of loss of control, Langer (1983) found that when loss is acute, it results in stress and anxiety. Here, the individual will typically react to restore the loss (Wortman & Brehm, 1975).

Humans are typically motivated to construct the world in a way that makes it appear that plans have been implemented and have worked as anticipated (Moghaddam & Studer, 1998). Studies on illusion of control have indicated that individuals with a high desire for control are so motivated to see themselves in control of events that they often distort their perception of control to satisfy this need (Moghaddam & Studer, 1998).

Perceiving control apparently is crucial not only to one's psychological well-being but to one's physical health as well (Langer, 1983). Drake (1987) reports that although both those with high needs for control and those with low needs for control engage in unrealistic optimism, there is some evidence that those with high needs for control do this more than those with low needs for control. This is consistent with the notion that maintaining a sense of relative invulnerability allows a person to retain a sense of control over potentially aversive experiences.

According to Burger (1992), those with high needs for control are probably not interested in influencing other people's behavior per se. Rather, what other people do is of interest to them primarily when their own need for control is threatened. Likewise, people may not always prefer to control what happens to them. Rather, they are motivated to maintain a sense of choice over what happens to them; that is, they are motivated to maintain the belief that their behavior is self-determined (Deci, 1980; Deci & Ryan, 1985). Those with high needs for control typically put up more resistance than those with

low needs for control to direct persuasive efforts that challenge their sense of self-determination (Burger, 1992).

There are situations in which high desire for control can be an asset. Burger (1992) reports that those with high needs for control are more driven to achieve, have higher ambitions, are more competitive, and are more responsive to challenges than those with low needs for control. Those with high needs for control approach achievement tasks differently than those with low needs for control. They set higher standards for themselves and are more motivated to overcome challenging tasks in an effort to demonstrate their personal mastery. Those with high needs for control also have a different style of working on a task than those with low needs for control. They seem to be better able to adjust their goals realistically, and they respond to challenges with more effort and greater persistence. Those with high needs for control are also more likely to get involved and take actions to exercise control (Burger, 1992).

The characterological nature of desire for control may influence the perceptions of those with high needs for control. As such, a wide range of situations and interactions could be affected, since those with high needs for control typically manipulate events to ensure desired outcomes (Burger & Cooper, 1979) and generally desire to demonstrate to themselves that they are capable of effectively exercising control over their environments (Burger, 1992). Likewise, those with high needs for control are generally assertive individuals who will take direct actions to reassert their sense of control if necessary (Burger, 1992). Thus, failure to show consideration for a client's perception of change is likely to more readily evoke the need for control in those individuals high in desire for control. Moreover, the arousal of reactance during the therapeutic encounter has the

potential to impact treatment interventions, thereby negatively impacting treatment outcomes.

### Perception of Change, Psychological Reactance, and Desire for Control

The previous review of literature suggests that the dimensions used by clients and therapists in perceiving change may be significant for the outcome and process of therapy. Furthermore, the previous review also revealed that two individual difference variables, psychological reactance and desire for control, may influence the way in which individuals construe or perceive change. Relatively high client levels of psychological reactance and desire for control might stimulate resistance which, in turn, has the potential to negatively impact the therapeutic process by impeding treatment efforts.

The review of literature concerning change processes, psychological reactance, and desire for control leads to the following hypotheses.

#### Hypotheses

Hypotheses 1 and 2 are both predictions of the relationships between psychological reactance and perceptions of change. The influence of participants' levels of reactance (high, moderate, or low) on perceptions of psychological change will be tested in Hypothesis 1. Since the literature (Hong & Ostini, 1989; Hong & Page, 1989; Merz, 1983) indicates that psychological reactance is possibly a multidimensional construct, Hypothesis 1 will be followed by an analysis in Hypothesis 2 designed to provide a more specific examination of the four factors of psychological reactance and their relationships to perceptions of change.

Hypotheses 3 and 4 are both predictions of the relationships between desire for control and perceptions of change. The influence of participants' levels of desire for

control (high, moderate, or low) on perceptions of psychological change will be tested in Hypothesis 3. Since the literature (Burger, 1992; Burger & Cooper, 1979) indicates that desire for control is possibly a multidimensional construct, Hypothesis 3 will be followed by an analysis in Hypothesis 4 designed to provide a more specific examination of the five factors of desire for control and their relationships to perceptions of change.

Hypothesis 5 is an examination of the nature of the relationship between the factors of psychological reactance and the factors of desire for control.

It should be noted that the research hypotheses were constructed based on the results of an exploratory factor analysis conducted in the present study (see Factor Analytic Construction of Dependent Variables, pp.56-61). The factor analysis was performed in order to identify the major conceptual dimensions underlying the perception of change. These extracted factors serve as dependent variables in the present study. Three factors were used as dependent variables: Factor I – Awareness and Preparation for Change, Factor II – Initiation of Change, and Factor III – Cognitive and Affective Self-Experience. These factor analytic findings are discussed in detail in the Results section. The research hypotheses are as follows:

#### Hypothesis 1.

Rationale for Hypothesis 1. The primary assumption of reactance theory concerns the motivational consequences of one's perception that a freedom has been threatened (Brehm & Brehm, 1981). The way in which freedoms are perceived has critical implications for understanding the necessary and sufficient conditions for the initiation of psychological reactance (Brehm & Brehm, 1981). The results of Hypothesis 1 should

provide potentially useful information concerning the dynamics of the initiation of reactance.

Rather than limit freedoms to behaviors, one can define freedoms as expectancies and outcomes over which the individual may or may not have control (Brehm & Brehm, 1981). Likewise, the reactant individual has been conceptualized as one who values freedom from restraint, whether perceived or actual (Dowd & Wallbrown, 1993). Any event or perception that makes it more difficult for an individual to exercise a freedom constitutes a threat to that freedom (Brehm & Brehm, 1981). Since the pervasive nature of psychological reactance may influence the perceptions of highly reactant individuals, such individuals may perceive the factors of change differently than those low in psychological reactance.

The maintenance of freedoms is a tenet central to reactance theory. The prospect of change may inherently suggest the possibility of a loss of perceived freedoms to those high in psychological reactance. When reactant individuals perceive a potential threat to personal freedoms, they are motivated to restore such freedoms (Brehm & Brehm, 1981). Highly reactant individuals may also consider the prospect of change as intrusive and restrictive (and thus, a threat to personal freedoms) if the change is perceived as being prompted by an external source, rather than initiated through personal choice. This constitutes an external threat to the highly reactant individual in the form of the elimination of a choice. Conversely, those low in reactance are less likely to perceive the prospect of change as intrusive and restrictive (less a threat to personal freedoms) if they believe such change to be prompted by an external source rather than initiated through

personal choice. To the highly reactant individual, a threat need only be the perception that a freedom is more difficult to exercise.

Participants high in psychological reactance are expected to be more sensitive to issues of personal change and to perceive issues of personal change as more self-relevant and personally central (i.e., as more important) than those participants low in psychological reactance. Change Factor I (Awareness and Preparation for Change) and Change Factor II (Initiation of Change) are similar in that they both imply a relatively objective, detached engagement in the change process (Factor I as in the planning for change, and Factor II as in the commencement of the change process). In contrast, Change Factor III (Cognitive and Affective Self-Experience) is less objectivistic and related more to the subjective, experiential aspects of the change process.

From a theoretical standpoint, among the three factors of change, the content of Change Factor III is more personally involving, self-relevant, and central than the content of Change Factors I and II. Therefore, the changes implied by Change Factor III would be most strongly experienced as a potential threat to freedom (i.e., the freedom to maintain one's customary self). Consequently, Change Factor III would be rated as significantly more important, or necessary, by the high psychological reactance group than by the low psychological reactance group.

Statement of Hypothesis 1. Participants high in psychological reactance are expected to differ significantly from participants low in psychological reactance in their perception of Factor III (Cognitive and Affective Self-Experience) of the Common Elements of Change Questionnaire. Differences between the high and low reactance

groups on Change Factor I and Change Factor II are not expected to be significantly different.

### Hypothesis 2.

Rationale for Hypothesis 2. The relationship between the dimensions, or factors, of psychological reactance and common elements of psychological change has not been investigated. There is a possibility that significant relationships exist between one or more specific Reactance factors and Common Elements of Change factors that are not apparent from the statistical relationships between the Reactance total score and the Change factor scores. Hypothesis 2 will investigate this possibility. Specific investigations of the relationship between psychological reactance and common elements of psychological change have not been reported in the literature. However, there are conceptual similarities between the factors of reactance and the factors of change, suggesting a relationship between the two.

First, there are similarities between the individual factors of reactance. Reactance Factor II (Conformity Reactance) and Reactance Factor IV (Reactance to Advice/Recommendations) reflect one's expression of reactance. Conformity Reactance suggests one's resistance to regulations. Reactance to Advice/Recommendations suggests one's resistance to advice from others. In contrast are Reactance Factors I and III, which are explored in the present hypothesis. Reactance Factor I (Freedom of Choice) and Reactance Factor III (Behavioral Freedom) are related more to that which the reactant individual strives for. Freedom of Choice suggests free will and independent decisions. Behavioral Freedom suggests one's freedom from the control of others. Reactance



Factors II and IV appear to be more situation-specific, whereas Reactance Factors I and III are more general, pervasive elements.

Second, similarities are present in the theme of the items that are included in Reactance Factor I (Freedom of Choice), Reactance Factor III (Behavioral Freedom), and Change Factor I (Awareness and Preparation for Change). Similarities include the references to independent decisions in Reactance Factor I, and the freedom to pursue options in Change Factor I. Independent decisions allow one the freedom to pursue available options (as in Change Factor I) as he or she so chooses. Similarities also include the references to behavioral freedom in Reactance Factor III and the freedom to pursue options in Change Factor I. Behavioral freedom reflects a sense of freedom from the control of others and is also related to the sense of freedom to pursue options in Change Factor I. Similarities between both the reactance and change factors also include references to will or volition. Additionally, Change Factor I refers specifically to freedoms, which is one of the central tenets of reactance theory.

The aforementioned similarities lead to the following hypothesized relationship between the factors of reactance and the factors of change.

Statement of Hypothesis 2. A significant positive relationship is expected between both Factor I (Freedom of Choice) and Factor III (Behavioral Freedom) of Hong's Psychological Reactance Scale with Factor I (Awareness and Preparation for Change) of the Common Elements of Change Questionnaire.

### Hypothesis 3.

Rationale for Hypothesis 3. For those high in desire for control, possessing control can be seen as equivalent to having one or more specific freedoms, and a freedom can be

defined in terms of the expectation of control since having a freedom implies one's control over a behavioral outcome (Dowd & Wallbrown, 1993). The ways in which freedoms and control are perceived may have implications relevant to understanding the necessary and sufficient conditions for one's initiation of the desire for control. The results of Hypothesis 3 should provide potentially useful information concerning the dynamics of the initiation of one's desire for control.

Individuals high in desire for control have been conceptualized as those who are motivated to see themselves in control of the events in their lives, and those who prefer to avoid unpleasant situations or failures by manipulating events to ensure desired outcomes (Burger, 1992; Burger & Cooper, 1979). Langer (1983) notes that a belief in personal control may be basic to human functioning and essential to one's sense of competence. However, when one with high needs for control has a perception of control that is threatened, the result can be severely incapacitating (Langer, 1983). Since the pervasive nature of desire for control may influence the perceptions of those high in desire for control, such individuals may perceive the factors of change differently than those low in desire for control.

The maintenance of control is a tenet central to the theory of desire for control. The prospect of change may inherently suggest the possibility of a loss of perceived control to those high in desire for control. When these individuals perceive a potential threat to personal control, they may be motivated to restore such control. Those high in desire for control may also consider the prospect of change as intrusive and restrictive (and thus, a threat to personal control) if the change is perceived as being prompted by an external source, rather than initiated through personal choice. This constitutes an external threat in

the form of the elimination of a choice. Conversely, those low in desire for control are less likely to perceive the prospect of change as intrusive and restrictive (less a threat to personal control) if they believe such change to be prompted by an external source, rather than initiated through personal choice. To those high in desire for control, a threat need only be the perception that personal control is more difficult to exercise.

Participants high in desire for control are expected to be more sensitive to issues of personal change and to perceive issues of personal change as more self-relevant and personally central (i.e., as more important) than those participants low in desire for control. Change Factor I (Awareness and Preparation for Change) and Change Factor II (Initiation of Change) are similar in that they both imply a relatively objective, detached engagement in the change process (Factor I as in the planning for change, and Factor II as in the commencement of the change process). In contrast, Change Factor III (Cognitive and Affective Self-Experience) is less objectivistic and related more to the subjective, experiential aspects of the change process.

From a theoretical standpoint, among the three factors of change, the content of Change Factor III is more personally involving, self-relevant, and central than the content of Change Factors I and II. Therefore, the changes implied by Change Factor III would be most strongly experienced as a potential threat to one's personal control (i.e., control over one's self and self-experience). Consequently, Change Factor III would be rated as significantly more important or necessary by the high desire for control group than by the low desire for control group.

Statement of Hypothesis 3. Participants high in desire for control are expected to differ significantly from participants low in desire for control in their perception of Factor

### III (Cognitive and Affective Self-Experience) of the Common Elements of Change

Questionnaire. Differences between the high and low desire for control groups on Change Factor I and Change Factor II are not expected to be significantly different.

#### Hypothesis 4.

Rationale for Hypothesis 4. The relationship between the dimensions, or factors, of desire for control and common elements of psychological change has not been investigated. There is a possibility that significant relationships exist between one or more specific Desirability of Control factors and Common Elements of Change factors that are not apparent from the statistical relationships between the Control total score and the Change factor scores. Hypothesis 2 will investigate this possibility. Specific investigations of the relationship between desire for control and common elements of psychological change have not been reported in the literature. However, there are conceptual similarities between the factors of control and the factors of change, suggesting a relationship between the two.

First, there are similarities between the individual factors of desire for control. Control Factor II (Decisiveness), Control Factor III (Preparation-Prevention Control), and Control Factor V (Leadership), taken collectively, reflect situation-specific responses directed toward the maintenance of control. Decisiveness suggests the preference of one choice over a decision. Preparation-Prevention Control suggests a desire to know what a task is about before beginning the task. Leadership suggests one's preference for taking a leadership role in group projects. In contrast are Control Factors I and IV, which are explored in the present hypothesis. Control Factor I (General Desire for Control) and Control Factor IV (Avoidance of Dependence) reflect a general, pervasive guardedness.

General Desire for Control suggests an individual's control over his or her own destiny. Avoidance of Dependence suggests being on guard and avoiding situations where one is told what to do. Control Factors II, III, and IV appear to be more situation-specific, whereas Control Factors I and IV are more general, pervasive elements.

Second, similarities are present in the theme of the items that are included in Control Factor I (General Desire for Control), Control Factor IV (Avoidance of Dependence), and Change Factor I (Awareness and Preparation for Change). Similarities include references to the control over one's own destiny in Control Factor I, and the freedom to pursue options in Change Factor I. The control over one's own destiny allows one the freedom to pursue available options as he or she so chooses. Similarities also include references to the avoidance of situations in which one is told what to do in Control Factor IV and the freedom to pursue options in Change Factor I. The avoidance of situations in which one is told what to do reflects a sense of freedom from the control of others and is also related to the sense of freedom to pursue options in Change Factor I. Additionally, Change Factor I refers specifically to freedom, which is related to the theory of desire for control. Having a freedom implies one's control over a behavioral outcome (Dowd & Wallbrown, 1993).

The aforementioned similarities lead to the following hypothesized relationship between the factors of reactance and factors of change.

Statement of Hypothesis 4. A significant positive relationship is expected between both Factor I (General Desire for Control) and Factor IV (Avoidance of Dependence) of the Desirability of Control Scale with Factor I (Awareness and Preparation for Change) of the Common Elements of Change Questionnaire.

### Hypothesis 5.

Rationale for Hypothesis 5. Information contained in the literature suggests a relationship between the two individual difference variables of psychological reactance and desire for control (Brehm, 1966; Brehm & Brehm, 1981; Burger, 1992; Burger & Cooper, 1979; Dowd & Wallbrown, 1993). Brehm and Brehm note that there is an intimate relationship between the notion of control and reactance theory. Dowd and Wallbrown have also suggested that those high in reactance typically try to control events rather than let events control them. Generally speaking, having control can be seen as equivalent to having one or more specific freedoms, and the motivation to regain control can be seen as equivalent to reactance. Moreover, a freedom can be defined in terms of the expectation of control, since having a freedom implies one's control over a behavioral outcome (Dowd & Wallbrown, 1993). Conceptual similarities seem to be most apparent between the references to freedom of choice of psychological reactance and the references to avoidance of dependence of desire for control.

Although specific predictions concerning the relationship between psychological reactance and desire for control are not directly supported by the literature, a relationship is suggested. The aforementioned similarities lead to the following hypothesized relationship between the factors of psychological reactance and the factors of desire for control.

Statement of Hypothesis 5. A significant positive relationship is expected between a set or subset of the factors of Hong's Psychological Reactance Scale and a set or subset of the factors of the Desirability of Control Scale.

### Summary of Chapter 1

The Introduction section presented a statement of the research problem. The problem statement addressed the potential influence of psychological reactance and desire for control on perceptions of psychological change, along with clinical considerations of such perceptions. A statement of purpose was presented next. The statement of purpose outlined the following objectives: determine the extent to which reactance and desire for control are related to perceptions of psychological change, determine the relationship between reactance and desire for control, determine whether individual factors of reactance and desire for control are related to specific dimensions of psychological change, and speculate about clinical and therapeutic implications. A review of related literature was then presented in order to provide conceptual perspectives relevant to the research hypotheses. A rationale for each research hypothesis was presented next, followed by a statement of each corresponding hypothesis.

## CHAPTER 2

### Method

The present study tested whether individuals differing in psychological reactance and desire for control also systematically differed in their perceptions of change, as assessed by their ratings on the three factors of change. The first step in the statistical analysis was to conduct a factor analysis in order to identify the major factors in the perception of change. These extracted factors were used to construct the dependent variable measures of change. The second step in the statistical analysis was to determine the impact of psychological reactance and desire for control on individuals' perceptions of the factors of change.

The author utilized the Common Elements of Change Questionnaire to assess the ways in which participants perceived or identified with particular elements of change. Hong's Psychological Reactance Scale (Hong & Page, 1989) was utilized to measure psychological reactance. The Desirability of Control Scale (Burger & Cooper, 1979) was utilized to measure desire for control. The author then examined the relationships between perceptions of change, psychological reactance, and desire for control.

#### Participants

Participation in the present study was limited to adults 18 years of age and older. There were 420 individuals that participated in the study. The principal investigator recruited participants from the general population and the college community.



Participants included full- and part-time undergraduate and graduate students enrolled at Pittsburg State University; Pittsburg, Kansas. The author obtained appropriate permission from the Human Subjects Committees of both Pittsburg State University and Louisiana Tech University. Participants were treated in accordance with the ethical guidelines established in the American Psychological Association's Ethical Principles of Psychologists (1992). Participation in the present study was voluntary, and anonymous questionnaires were utilized.

### Measures

Common Elements of Change Questionnaire. (See Appendix A.) An extensive review of relevant literature revealed that there was no instrument germane to the major purpose of the present study (i.e., measurement of perceptions of change). Collection of data pertinent to the present study necessitated development and construction of the Common Elements of Change Questionnaire, which the author used to evaluate perceptions of change.

The Common Elements of Change Questionnaire included 24 elements of change as identified by Hanna and Ritchie (1995). These 24 elements were derived from the literature on psychotherapeutic change and included shared elements from across a wide range of schools of psychological thought. The author used the Common Elements of Change Questionnaire to evaluate participants' perceptions of elements necessary or relevant to the process of personal change. The 24 common elements of change included in the Common Elements of Change Questionnaire are as follows:

Item 1. A new view or perspective of oneself (Elliott, 1985 ; Horvath, 1984; Mahoney, 1992; Strupp, 1988).

Item 2. Gaining a new perspective of the problem or stressful situation (Elliott, 1985; Mahoney, 1992; Shulman, 1988; Strupp, 1988).

Item 3. A new perspective or restructuring of the world in general (Elliott, 1985; Gendlin, 1970; Lyddon, 1990; Mahoney, 1992; Strupp, 1988).

Item 4. Effort or will (Axsom, 1989; Cross & Markus, 1990; Kolb, Beutler, Davis, Crago, & Shanfield, 1985; Rank, 1929/1978; Yalom, 1980, 1989).

Item 5. A goal or plan (Hanna & Ritchie, 1995).

Item 6. A sense of necessity for change (Power, 1981; Whitaker, 1989).

Item 7. A willingness to experience anxiety or difficulty (Hanna & Puhakka, 1991; Heidegger, 1927/1962; Mahoney, 1992; Mahrer, 1989).

Item 8. Facing up to or confronting the problem or stressful situation (Hanna & Puhakka, 1991; Pennebaker & Beall, 1986).

Item 9. Stepping back or detaching oneself from the problem or stressful situation (Rychlak, 1982).

Item 10. Release of tension or emotion [i.e., catharsis (Caper, 1988; Rieff, 1979)].

Item 11. Sense of being released or freed from a problem or burden (Craig & Aanstoos, 1988; Heidegger, 1965).

Item 12. Becoming aware or conscious of the problem or stressful situation (Hanna & Puhakka, 1991; Kottler, 1991).

Item 13. A sense of freedom to pursue options (Craig & Aanstoos, 1988; Sartre, 1953; Weiss, 1958).

Item 14. Becoming more tolerant or accepting of a particular person, situation, or problem (Hanna, 1991; Heidegger, 1965).

Item 15. Experiencing a sense of becoming more yourself (Perls, 1973; Rogers, 1961).

Item 16. Insight or understanding (Alexander & French, 1974; Shulman, 1988; Yontef & Simkin, 1989).

Item 17. A sense of mastery (Frank, 1973, 1985).

Item 18. A greater or enhanced sense of meaning (Frankl, 1963; Yalom, 1980).

Item 19. A change in thoughts or thinking about a problem or situation (Beck, 1976; Ellis, 1971; Mahoney, 1992).

Item 20. Problem solving (Heppner & Kreuskopf, 1987; Martin, 1985).

Item 21. Making a decision to change (Strupp, 1988).

Item 22. The influence of hope (Frank, 1968, 1973; Grencavage & Norcross, 1990; Hanna, 1991).

Item 23. Belief in one's own capability of overcoming a problem or stressful situation [i.e., self-efficacy (Bandura, 1977)].

Item 24. Changing a behavior [i.e., self-determined behavior change (Hart, 1981; Howard, 1986; Howard & Conway, 1986; James, 1890/1981)].

The Common Elements of Change Questionnaire was designed using a 7-point Likert-type scale. The author utilized a 7-point rating scale (rather than a 5-point) in order to better differentiate between respondents' choices and to provide greater systematic variance for the ratings. The purpose of the scale was to determine, in each participant's opinion, which of the 24 items were more representative and personally relevant to his or her perception of the necessary elements of change. For each item, greater perceived relevance to the process of change is operationally defined by higher scores on the

Common Elements of Change Questionnaire. Participants rated each item by circling one number from 1 to 7, with the following designations: 1 – never a factor of change, 2 – almost never a factor of change, 3 – seldom a factor of change, 4 – sometimes a factor of change, 5 – often a factor of change, 6 – almost always a factor of change, and 7 – always a factor of change. To avoid confusion, the author thoroughly explained the use of the rating scale to participants both in person and by a short instructional paragraph provided on each questionnaire. The items appeared on the questionnaire as follows:

	Never	Almost Never	Seldom	Sometimes	Often	Almost Always	Always
1. A new view or perspective of oneself is necessary.	1	2	3	4	5	6	7

Results of the exploratory factor analysis revealed that the Common Elements of Change Questionnaire was best represented by a three-factor structure. The three-factor structure accounted for 39.5% of the total variance. Factor I was labeled Awareness and Preparation for Change (e.g., effort or will, a goal or plan, cognizance of that requiring change, belief in one's own capability) and included items 4, 5, 8, 12, 13, and 23. Factor II was labeled Initiation of Change (e.g., sense of necessity, the decision to change, changing a behavior) and included items 6, 19, 21, and 24. Factor III was labeled Cognitive and Affective Self-Experience (e.g., catharsis, a sense of becoming more oneself, greater sense of meaning) and included items 10, 11, 14, 15, and 18.

Hong's Psychological Reactance Scale. (See Appendix B.) Hong's Psychological Reactance Scale (Hong & Page, 1989) was utilized to measure participant's potential for psychological reactance. Greater psychological reactance is operationally defined by higher scores on Hong's Psychological Reactance Scale. The scale included 14 items, and respondents' choices were recorded on a 5-point Likert-type scale with the following

designations: 1 – disagree completely, 3 – neither agree nor disagree, and 5 – agree completely. The items appeared on the scale as follows:

	Disagree Completely	Disagree Somewhat	Neither Agree Nor Disagree	Agree Somewhat	Agree Completely
1. Regulations trigger a sense of resistance in me.	1	2	3	4	5

The author of Hong's Psychological Reactance Scale reports a four-factor structure (Hong & Page, 1989). The four-factor structure accounted for 52.7% of the total variance, with no items loading significantly on more than one factor. Factor I was labeled Freedom of Choice (e.g., free will, independent decisions) and included items 4, 6, 8, and 10. Factor II was labeled Conformity Reactance (e.g., resistance to regulations) and included items 1, 2, and 3. Factor III was labeled Behavioral Freedom (e.g., free from the control of others) and included items 11, 12, 13, and 14. Factor IV was labeled Reactance to Advice and Recommendations (e.g., advice is considered intrusive) and included items 5, 7, and 9. The author of the scale labeled all of the aforementioned factors.

Hong and Page (1989, 1996) reported that the 14 items of Hong's Psychological Reactance Scale had means that ranged from 2.48 to 4.02, with their standard deviations ranging from 1.03 to 1.30. This indicates relatively low variations in response. Reliability coefficients for the scale indicated satisfactory test-retest stability at .89 over a 2-week period, and .73 over a 6-week period. Cronbach's alpha, split-half, and theta coefficients were calculated for the 14-item scale by the scale's author. For the total sample, the alpha level of the 14-item scale was .80 with split-half coefficients at .77 and theta coefficients at .80. Correlations between the four factors of Hong's Psychological Reactance Scale range from .21 to .44 indicating a low to moderate relationship.

Six individual scales measuring various personality constructs were administered to gauge the validity of Hong's Psychological Reactance Scale (1996). The scale's author conducted the administration in order to demonstrate that the scale was not measuring a construct other than psychological reactance. The scales used to measure the personality constructs were as follows: The Self-Esteem Scale (Richardson & Benbow, 1990), the Satisfaction with Life Scale (Diener et al., 1985), the Religiosity Scale (Mol, 1970), the Trait-Anger Scale (Hong & Withers, 1982), the Locus of Control Scale (Lumpkin, 1985), and the Depression Scale (Keltingangas-Jarvinen & Rimmon, 1987). Correlations between Hong's 14-item scale and the personality scales were .02, -.04, -.10, .38, .02, and .15, respectively, indicating an adequate measure of the construct psychological reactance.

Desirability of Control Scale. (See Appendix C.) The Desirability of Control Scale (Burger & Cooper, 1979) was utilized to measure the respondents' motivation to see themselves in control of the events in their lives. Burger notes that the name of the scale reflects the extent to which the respondent desires to control events, and that the terms "need for control" and "desire for control" are used synonymously (personal communication, May 24, 2000).

The Desirability of Control Scale (Burger & Cooper, 1979) was used in the present study to measure individual differences in the motivation or general desire for control over the events in one's life. Greater desire for control is operationally defined by higher obtained scores on the Desirability of Control Scale. Burger's scale included 20 items, and respondents' choices were recorded on a 7-point Likert-type scale with the following designations: 1 – the statement does not apply to me at all, 4 – I am unsure about whether

or not the statement applies to me or it applies to me about half the time, and 7 – the statement always applies to me. The items appear on the scale as follows:

	Doesn't at All	Usually Doesn't	Often Doesn't	Unsure or Half the Time	Applies Often Does	Usually Does	Always Does
1. I prefer a job where I have a lot of control over what I do and when I do it.	1-----	2-----	3-----	4-----	5-----	6-----	7

The author of the Desirability of Control Scale reports a five-factor structure (Burger & Cooper, 1979). The five-factor structure accounted for 50.4% of the total variance. Factor I was labeled General Desire for Control (e.g., control over one's destiny) and included items 1, 5, 8, 9, 11, and 12. Factor II was labeled Decisiveness (e.g., an individual prefers one choice rather than making a decision from several choices) and included items 7, 16, 19, and 20. Factor III was labeled Preparation-Prevention Control (e.g., knowing what a task is about before beginning) and included items 6, 13, 14, and 17. Factor IV was labeled Avoidance of Dependence (e.g., avoiding situations where one is told what to do) and included items 3 and 18. Factor V was labeled Leadership (e.g., rather take leadership role in group projects) and included items 2, 4, 10, and 15. The author of the scale labeled all of the aforementioned factors.

The author of the Desirability of Control Scale performed an item analysis in order to produce maximum internal consistency. This analysis resulted in a Kuder-Richardson 20 reliability of .80. In a second sample, a Kuder-Richardson 20 reliability of .81 was obtained. A test-retest reliability coefficient for the 20-item scale of .75 was obtained approximately 6 weeks after the initial administration of the instrument.

The Rotter Internal-External Locus of Control Scale (Rotter, 1966) was administered to gauge the validity of the Desirability of Control Scale by demonstrating that the scale was not measuring a construct other than desire for control. The locus of control

dimension examines the degree to which a person believes he or she controls events, while the desire for control dimension examines how attractive such control is.

Consistent with predictions, a weak negative relationship was found between the Desirability of Control Scale and the Rotter Internal-External Locus of Control Scale ( $r = -.19$ ). This suggests that while individuals who generally perceive events as internally determined also show a slight tendency to desire control over events, the two scales appear to be measuring different concepts.

The Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) was also administered by the scale's author to determine whether participants were answering with a socially desirable response set. A low correlation ( $r = .11$ ) between the two scales was reported indicating that the participants were not responding merely in a socially desirable manner.

### Procedure

The questionnaires were administered to participants individually and in groups with permission from the Human Subjects Committees of both Pittsburg State University and Louisiana Tech University. The group administrations were conducted in graduate and undergraduate classes at Pittsburg State University. A short instructional paragraph was provided with each questionnaire. Participants were asked to rate items on the questionnaires based on their opinions only and were informed that there were no right or wrong answers. Participation in the study was voluntary and participants were treated in accordance with the ethical guidelines established in the American Psychological Association's Ethical Principles of Psychologists (1992).



### Data Analysis

The data analysis was conducted in two parts. In part one, the author conducted an exploratory factor analysis in order to examine participants' perceptions of change and to construct the dependent variable measures. Factor analysis is a statistical technique used to analyze the intercorrelations among a large number of variables in order to identify a set of common underlying dimensions known as factors. The author conducted the factor analysis to reduce 24 common elements of change identified by Hanna and Ritchie (1995) into a smaller number of more fundamental dimensions of change. Hanna and Ritchie derived the 24 elements from the literature on psychological change.

The author constructed the Common Elements of Change Questionnaire (see Appendix A) for use in the present study, basing it on Hanna and Ritchie's 24 common elements of change. Participants' perceptions of the process of change were assessed through their ratings of the 24 items contained in the Common Elements of Change Questionnaire. Participants rated each item based on their perception of the relative necessity or significance of the item to the process of change. Extracted factors served as dependent variables for Hypotheses 1, 2, 3, and 4. The factors were constructed by giving each item possessing a salient loading (.40) equal unit weight on each factor.

In part two of the data analysis, the author analyzed collected data to determine the impact of psychological reactance and desire for control on participants' perceptions of the factors of change. More specifically, the author made a determination as to whether those high in psychological reactance and desire for control perceive the factors of change differently than those low in psychological reactance and desire for control. The

author also examined the relationship between psychological reactance and desire for control.

The research hypotheses were tested by applying multivariate analysis of variance (MANOVA) and canonical correlation analysis to the collected data. MANOVA is a statistical technique used to simultaneously examine the relationship between several categorical independent variables and two or more metric dependent variables. Canonical correlation analysis is a multivariate statistical model that facilitates the study of interrelationships among sets of multiple metric or categorical dependent variables and multiple metric or categorical independent variables.

The author performed two MANOVAs. Psychological reactance (high, moderate, low) was the independent variable in the MANOVA performed to test Hypothesis 1. Desire for control (high, moderate, low) was the independent variable in the MANOVA performed to test Hypothesis 3. The dependent variables for both MANOVAs were scores on the three factors of the Common Elements of Change Questionnaire.

The author performed three canonical correlation analyses. Hypothesis 2 examined the relationship between a variate composed of the three factors of the Common Elements of Change Questionnaire and a variate composed of the four factors of Hong's Psychological Reactance Scale. Hypothesis 4 examined the relationship between a variate composed of the three factors of the Common Elements of Change Questionnaire and a variate composed of the five factors of the Desirability of Control Scale. Hypothesis 5 examined the relationship between a variate composed of the four factors of Hong's Psychological Reactance Scale and a variate composed of the five factors of the Desirability of Control Scale.

Hypothesis 1. Hypothesis 1 states that participants high in psychological reactance will differ significantly from participants low in psychological reactance in their perception of Factor III (Cognitive and Affective Self-Experience) of the common elements of change. The author tested Hypothesis 1 through an examination of the results from Hong's Psychological Reactance Scale and the Common Elements of Change Questionnaire. On both questionnaires, the author computed scores for each factor and used an average of relevant item scores on each factor to form the independent variables of high (greater than +1 SD), moderate (between -1 SD and +1 SD), and low (less than -1 SD) psychological reactance. Scores on the three factors of the Common Elements of Change Questionnaire served as dependent variables. Greater psychological reactance is operationally defined by higher obtained scores on the factors of Hong's Psychological Reactance Scale. Greater relevance to the process of change is operationally defined by higher obtained scores on the factors of the Common Elements of Change Questionnaire. The author utilized MANOVA to assess the statistical significance of differences between groups. Post hoc comparisons were performed using Newman-Keuls tests since a moderately conservative post hoc method was desired. Among the more common post hoc procedures, the Scheffe test is ranked as highly conservative followed by the Tukey, the Newman-Keuls, and the Duncan which is least conservative (Hair, Anderson, Tatham, & Black, 1995; Stevens, 1972).

Hypothesis 2. Hypothesis 2 states that there will be a significant positive relationship between Reactance Factor I (Freedom of Choice) and Reactance Factor III ( Behavioral Freedom) with Change Factor I (Awareness and Preparation for Change). The author tested Hypothesis 2 through an examination of the results from Hong's Psychological

Reactance Scale and the Common Elements of Change Questionnaire. On both questionnaires, the author computed scores for each factor and used an average of relevant item scores on each factor for the data analysis. Greater psychological reactance is operationally defined by higher obtained scores on the factors of Hong's Psychological Reactance Scale. Greater relevance to the process of change is operationally defined by higher obtained scores on the factors of the Common Elements of Change Questionnaire. The author utilized canonical correlation analysis to examine the relationship between a variate composed of the four factors of Hong's Psychological Reactance Scale and a variate composed of the three factors of the Common Elements of Change Questionnaire.

Hypothesis 3. Hypothesis 3 states that participants high in desire for control will differ significantly from those participants low in desire for control in their perception of Factor III (Cognitive and Affective Self-Experience) of the Common Elements of Change Questionnaire. The author tested Hypothesis 3 through an examination of results from the Desirability of Control Scale and the Common Elements of Change Questionnaire. On both questionnaires, the author computed scores for each factor and used an average of relevant item scores on each factor to form the independent variables of high (greater than +1 SD), moderate (between -1 SD and +1 SD), and low (less than -1 SD) psychological reactance. The three factors of the Common Elements of Change Questionnaire served as dependent variables. Greater desire for control is operationally defined by higher obtained scores on the factors of the Desirability of Control Scale. Greater relevance to the process of change is operationally defined by higher obtained scores on the factors of the Common Elements of Change Questionnaire. The author utilized MANOVA to assess the statistical significance of differences between groups.

Post hoc comparisons were performed using Newman-Keuls tests since a moderately conservative post hoc method was desired. Among the more common post hoc procedures, the Scheffe test is ranked as highly conservative followed by the Tukey, the Newman-Keuls, and the Duncan which is least conservative (Hair, Anderson, Tatham, & Black, 1995; Stevens, 1972).

Hypothesis 4. Hypothesis 4 states that there will be a significant positive relationship between Control Factor I (General Desire for Control) and Control Factor IV (Avoidance of Dependence) with Change Factor I (Awareness and Preparation for Change). The author tested Hypothesis 4 through an examination of results from the Desirability of Control Scale and the Common Elements of Change Questionnaire. On both questionnaires, the author computed scores for each factor and used an average of relevant item scores on each factor for the data analysis. Greater desire for control is operationally defined by higher obtained scores on the factors of the Desirability of Control Scale. Greater relevance to the process of change is operationally defined by higher obtained scores on the factors of the Common Elements of Change Questionnaire. The author utilized canonical correlation analysis to examine the relationship between a variate composed of the five factors of the Desirability of Control Scale and a variate composed of the three factors of the Common Elements of Change Questionnaire.

Hypothesis 5. Hypothesis 5 states that there will be a significant positive relationship between a set or subset of the factors of Hong's Psychological Reactance Scale and a set or subset of the factors of the Desirability of Control Scale. The author tested Hypothesis 5 through an examination of results from Hong's Psychological Reactance Scale and the Desirability of Control Scale. On both questionnaires, the author computed scores for

each factor and used an average of relevant item scores on each factor for the data analysis. Greater psychological reactance is operationally defined by higher obtained scores on the factors of Hong's Psychological Reactance Scale. Greater desire for control is operationally defined by higher obtained scores on the factors of the Desirability of Control Scale. The author utilized canonical correlation analysis to examine the relationship between a variate composed of the four factors of Hong's Psychological Reactance Scale and a variate composed of the five factors of the Desirability of Control Scale.

### Summary of Chapter 2

The Method section presented a description of the individuals that participated in the present study along with a presentation of relevant ethical considerations. Assessment instruments were presented next and included the Common Elements of Change Questionnaire, Hong's Psychological Reactance Scale, and the Desirability of Control Scale. Factor structures of the instruments were presented, as well as example items from each questionnaire. Administration procedures were presented next followed by an outline of the data analysis. A summary of the statistical analysis for each hypothesis was then presented. The data analysis was conducted in two parts. Part one was conducted in order to construct the dependent variable measures. Part two was conducted in order to determine both the impact of psychological reactance and desire for control on participants' perceptions of psychological change, and the relationship between the factors of reactance and the factors of control.

## CHAPTER 3

### Results

Chapter 3 presents the results of the study. First, a description of the characteristics of the research sample is presented, followed by an examination of possible gender effects. Next, the results of the factor analysis used to identify the dependent variables for the present study are presented. Lastly, the results of the tests of the research hypotheses are presented. A matrix of the correlations between the factors of change, psychological reactance, and desire for control is also provided, as well as a table of corresponding descriptive statistics.

#### Characteristics of the Sample

Participants ( $N=420$ ) consisted of 225 females (53.60%) and 195 males (46.40%). The age range was 18 through 64 years. The mean age of participants was 28.1 years ( $SD = 11.3$ ). Participants included 341 Caucasians (81.19%), 46 African Americans (10.95%), 12 Native Americans (2.86%), 11 Hispanics (2.62%), 8 classified as Other (1.90%), and 2 Asian Americans (.48%).

One of the strengths of the present study is its inclusion of a diverse demographic sample of respondents in the assessment of perception of change. The inclusion of information from a diverse demographic sample reduces the possibility that the results reflect reporting bias from one particular segment of the population (e.g., undergraduate students).

### Examination of Gender Effects

The author conducted a preliminary analysis in order to examine data utilized in the present study for possible gender differences. Hotelling's  $T^2$  [ $F(7, 412) = .6366, p > .90$ ] indicated that there was no association between the gender of respondents and their responses. Since no gender effect was indicated, responses were collapsed across gender in all subsequent analyses.

### Factor Analytic Construction of Dependent Variables

An examination of the anti-image correlation matrix for ratings on the Common Elements of Change Questionnaire indicated low anti-image correlations. This signifies a data matrix suitable for factor analysis. The measure of sampling adequacy (MSA) was specified with values less than .50 falling in the unacceptable range. MSA values for all items were at an acceptable level, indicating that the intercorrelation matrix based on respondents' ratings meets criteria for a valid factor analysis.

The author obtained the initial factor solution by using principal components analysis. Only the factors having eigenvalues greater than 1.0 were considered, resulting in a seven-factor solution. The initial seven-factor structure accounted for 59.1% of the total variance. Factor I accounted for 23.6% of the total variance with an eigenvalue of 5.657. Factor II accounted for 9.0% of the total variance with an eigenvalue of 2.158. Factor III accounted for 6.9% of the total variance with an eigenvalue of 1.665. Factor IV accounted for 5.4% of the total variance with an eigenvalue of 1.287. Factor V accounted for 5.1% of the total variance with an eigenvalue of 1.230. Factor VI accounted for 4.8% of the total variance with an eigenvalue of 1.164. Factor VII accounted for 4.3% of the total variance with an eigenvalue of 1.028.



The author utilized the parallel analysis method (Lautenschlager, 1989) in order to determine the number of components to retain after completing a principal components analysis. The parallel analysis method was chosen to control for incremental, cumulative increases in variance, since the accuracy of the first eigenvalue's estimate directly influences the accuracy of subsequent estimates of eigenvalues. Three factors were retained based on the parallel analysis criteria. The author based the criteria for inclusion of the three factors on tables provided by Lautenschlager (1989). The tables represented sample size and the total number of items to be factor analyzed ( $N=420$  and 24 items in the present case).

The author next applied principal-axis factoring to the data and forced a three-factor solution based on Lautenschlager's (1989) criteria. Principal-axis factoring enabled a least-squares solution of the factoring. The author then rotated the factor solution in order to achieve a simpler and more theoretically meaningful solution. An oblique factor rotation was chosen, since the theoretically important underlying dimensions are not assumed to be uncorrelated with one another. The author performed the oblique rotation on the three factors using the Oblimen method as provided in SPSS statistical packages. Oblimen is a criterion for obtaining an oblique rotation through the simplification of the pattern matrix by way of reference axes. The Oblimen factor structure is presented in Appendix D with results of the pattern matrix reported. Appendix D presents the loadings of the 24 items included in the Common Elements of Change Questionnaire. Table 1 presents the factor correlation matrix of the Common Elements of Change Questionnaire.

Table 1

Factor Correlation Matrix of the Common Elements of Change Questionnaire

	Factor 1	Factor 2	Factor 3
Factor 1	1.00000		
Factor 2	.31527	1.00000	
Factor 3	.38842	.18649	1.00000

The author specified a minimum factor loading of .40. Items meeting the loading criteria were retained and deemed a salient variable on a factor. Items 1, 2, 3, 7, 9, 16, 17, 20, and 22 did not achieve the .40 factor loading criteria. Since these variables were not satisfactorily represented in the factor solution, the author made a decision to delete the items when computing factors. No items loaded significantly on more than one factor. Items meeting the minimum factor loading included 4, 5, 6, 8, 10, 11, 12, 13, 14, 15, 18, 19, 21, 23, and 24 (see Appendix D for the items and their respective loadings). The three-factor structure obtained from the oblique rotation accounts for 39.5% of the total variance and 66.8% of the common variance. Factor I accounted for 23.6% of the total variance and 39.9% of the common variance. Factor II accounted for 9.0% of the total variance and 15.2% of the common variance. Factor III accounted for 6.9% of the total variance and 11.7% of the common variance.

Three expert judges with graduate degrees in the behavioral sciences independently labeled the factors. The judges discussed the results, with any discrepancies in labeling resolved through the mutual agreement of all judges.

Factor I of the Common Elements of Change Questionnaire includes items 8, 4, 12, 5, 23, and 13. Table 2 presents the significant item loadings on Factor I. Factor I is labeled Awareness and Preparation for Change. The theme of these items suggests an awareness or acknowledgement of a problem and preparation for the initiation of change, but no actual engagement in the change process. The items also indicate a general openness or willingness to change.

Table 2

Significant Item Loadings: Factor I of the Common Elements of Change Questionnaire

Item and number	Factor loading
(8) Facing-up or confronting the problem or stressful situation is necessary	.71
(4) Effort or will is necessary	.63
(12) Becoming aware or conscious of the problem or stressful situation is necessary	.49
(5) A goal or plan is necessary	.49
(23) Belief in one's own capability of overcoming a problem or stressful situation is necessary	.48
(13) A sense of freedom to pursue options is necessary	.44

Factor II of the Common Elements of Change Questionnaire includes items 19, 21, 24, and 6. Table 3 presents the significant item loadings on Factor II. Factor II is labeled Initiation of Change. The theme of these items suggests a reframing of cognitions along with subsequent behavioral interventions. The items possibly represent a positive attitudinal stance toward the process of change.

Table 3

Significant Item Loadings: Factor II of the Common Elements of Change Questionnaire

Item and number	Factor loading
(19) A change in thoughts or thinking about a problem or situation is necessary	.64
(21) Making a decision to change is necessary	.63
(24) Changing a behavior (self-determined behavior change) is necessary	.49
(6) A sense of necessity for change is necessary	.47

Factor III of the Common Elements of Change Questionnaire includes items 15, 14, 18, 11, and 10. Table 4 presents the significant item loadings on Factor III. Factor III is labeled Cognitive and Affective Self-Experience. Self-awareness is a central theme of Factor III, with the items being generally subjective in nature and insight-oriented. The items suggest an engagement in the change process whereby the process is being subjectively experienced. The items also reflect the positive, reinforcing aspects of change.

Table 4

Significant Item Loadings: Factor III of the Common Elements of Change Questionnaire

Item and number	Factor loading
(15) Experiencing a sense of becoming more yourself is necessary	.75
(14) Becoming more tolerant or accepting of a particular person, situation, or problem is necessary	.60
(18) A greater or enhanced sense of meaning is necessary	.55
(11) A sense of being released or freed from a problem or burden is necessary	.45
(10) Release of tension or emotion is necessary	.41

The three factors identified in the present factor analysis satisfactorily represent the common dimensions in the perception of change in this sample and, therefore, will serve as the dependent variables.

The factors of change identified in the aforementioned factor analysis show some similarity to a model of stages of change proposed by Prochaska, DiClemente, and Norcross (1992). The model is composed of five stages of change that are identified as follows: Stage 1 – precontemplation, Stage 2 – contemplation, Stage 3 – preparation, Stage 4 – action, and Stage 5 – maintenance. The similarities between the factors of change identified in the present study and the stages of change proposed by Prochaska,

DiClemente, and Norcross will be examined in greater detail in the Discussion section of this study.

### Results of the Research Hypotheses

Descriptive statistics are provided in Table 5. Each factor of change is included in the table, along with the corresponding mean and standard deviation for each level (high, moderate, low) of the two independent variables, psychological reactance and desire for control.  $F$  and  $p$  values are also included on each factor of change for psychological reactance and desire for control.

Table 6 presents means, standard deviations, and Cronbach's alpha for the three factors of the Common Elements of Change Questionnaire, the four factors of Hong's Psychological Reactance Scale, the five factors of the Desirability of Control Scale, and the total measures on change, reactance, and control.

Table 7 presents a matrix of Pearson correlations for the three factors of the Common Elements of Change Questionnaire, the four factors of Hong's Psychological Reactance Scale, and the five factors of the Desirability of Control Scale. Correlations for the measures of psychological reactance and desire for control are also included. According to Champion (1981), correlations between  $\pm .50$  and  $\pm .75$  suggest a moderately strong association. Correlations above  $\pm .76$  suggest a strong association.

Inspection of the correlation matrix in Table 7 indicates a moderately strong positive association ( $r = .50$ ) between Control Factor I (General Desire for Control) and Control Factor V (Leadership). A moderately strong positive association ( $r = .68$ ) is indicated between the total measure of psychological reactance and Reactance Factor II (Conformity Reactance). A strong positive association is indicated between the total

Table 5

Descriptive Statistics: Psychological Reactance, Desire for Control, and Common Elements of Change (N=420)

	Psychological reactance			Desire for control		
Change	High	Moderate	Low	High	Moderate	Low
Factor	( <u>n</u> =77)	( <u>n</u> =277)	( <u>n</u> =66)	( <u>n</u> =65)	( <u>n</u> =299)	( <u>n</u> =56)
Factor I (Awareness and Preparation for Change)						
<u>M</u>	44.31	44.10	44.85	45.40	44.07	43.91
<u>SD</u>	6.33	5.37	5.09	6.01	5.44	5.20
	<u>F</u> (2, 417) = 0.50, <u>p</u> = 0.607			<u>F</u> (2, 417) = 1.69, <u>p</u> = 0.186		
Factor II (Initiation of Change)						
<u>M</u>	39.79	38.72	39.08	40.12	38.71	39.04
<u>SD</u>	5.04	5.28	4.97	5.66	5.15	4.73
	<u>F</u> (2, 417) = 1.30, <u>p</u> = 0.274			<u>F</u> (2, 417) = 1.99, <u>p</u> = 0.138		
Factor III (Cognitive and Affective Self-Experience)						
<u>M</u>	32.16	30.92	30.39	32.37	30.94	30.18
<u>SD</u>	4.29	4.73	4.21	5.13	4.54	3.99
	<u>F</u> (2, 417) = 3.04, <u>p</u> = 0.048			<u>F</u> (2, 417) = 3.81, <u>p</u> = 0.022		

Table 6

Means, Standard Deviations, and Cronbach's Alpha for the Factors of Psychological Reactance, Desire for Control, and the Elements of Change (N=420)

Variable	<u>M</u>	<u>SD</u>	Cronbach's $\alpha$
Reactance			
Total	44.67	8.06	.80
Factor I	14.95	2.69	.88
Factor II	8.89	2.42	.89
Factor III	12.48	3.14	.94
Factor IV	8.34	2.37	.78
Control			
Total	94.35	10.72	.86
Factor I	32.78	4.54	.91
Factor II	13.71	3.62	.94
Factor III	21.42	3.70	.89
Factor IV	9.04	2.59	.83
Factor V	17.38	3.32	.74
Change			
Total	98.76	10.97	.78
Factor I	44.25	5.51	.83
Factor II	38.97	5.19	.89
Factor III	31.06	4.60	.83



Table 7

Correlations: Common Elements of Change, Psychological Reactance, and Desire for Control (N=420)

	CF1	CF2	CF3	HF1	HF2	HF3	HF4	DF1	DF2	DF3	DF4	DF5
F1	1.000											
F2	.315*	1.000										
F3	.388*	.187*	1.000									
HF1	.067	.026	.171**	1.000								
HF2	.034	.041	.082	.389**	1.000							
HF3	-.004	.101*	.123*	.480**	.345**	1.000						
HF4	-.072	.040	.113*	.492**	.378**	.425**	1.000					
DF1	.104*	-.047	.109*	.410**	.216**	.245**	.304**	1.000				
DF2	-.116*	.029	-.052	.014	.135**	.145**	.186**	-.127**	1.000			
DF3	.242**	.086	.150**	.163**	.067	.129**	.111*	.338**	-.056	1.000		
DF4	.017	.005	.124*	.397**	.277**	.443**	.351**	.431**	.192**	.338**	1.000	
DF5	-.005	.002	.022	.314**	.267**	.210**	.236**	.500**	.051	.125**	.257**	1.000
H:Total	.010	.072	.163*	.782**	.676**	.799**	.765**	.386**	.157**	.157**	.491**	.336**
D:Total	.091	.022	.117*	.428**	.310**	.369**	.389**	.757**	.327**	.590**	.686**	.644**

Note. CF1, 2, and 3 = factors 1, 2, and 3 of the Common Elements of Change Questionnaire. HF1, 2, 3, and 4 = factors 1, 2, 3, and 4 of Hong's Psychological Reactance Scale. DF1, 2, 3, 4, and 5 = factors 1, 2, 3, 4, and 5 of the Desirability of Control Scale. H:Total = total measure of Hong's Psychological Reactance Scale. D:Total = total measure of the Desirability of Control Scale.

p < .05. \*\*p < .01.

measure of psychological reactance and Reactance Factor I [Freedom of Choice ( $r = .78$ )], Reactance Factor III [Behavioral Freedom ( $r = .80$ )], and Reactance Factor IV [Reactance to Advice and Recommendations ( $r = .77$ )]. A moderately strong positive association is indicated between the total measure of desire for control and Control Factor III [Preparation-Prevention Control ( $r = .59$ )], Control Factor IV [Avoidance of Dependence ( $r = .69$ )], and Control Factor V [Leadership ( $r = .64$ )]. A strong positive association ( $r = .76$ ) is indicated between the total measure of desire for control and Control Factor I (General Desire for Control). None of the other correlations reached .50.

Hypothesis 1. The impact of psychological reactance on respondents' perceptions of common elements of change was examined in Hypothesis 1.

The three factors derived from the Common Elements of Change Questionnaire were entered into a one-way multivariate analysis of variance with three levels. Psychological reactance served as the independent variable. The three levels (high, moderate, low) were determined by grouping the responses that were greater than one standard deviation above the mean into the high level; responses between one standard deviation below the mean to one standard deviation above the mean into the moderate level; and responses less than one standard deviation below the mean into the low level. The results revealed a significant multivariate main effect, Roy's Greatest Root = .025,  $F(3, 416) = 3.50$ ,  $p < .015$ . Since a significant overall main effect was found, Hypothesis 1 was supported.

The results of subsequent univariate analysis of variance indicated that there was a significant main effect of psychological reactance on Change Factor III,  $F(2, 417) = 3.04$ ,  $p < .048$ . No statistically significant results were found for Change Factors I and II. Newman-Keuls tests ( $p < .05$  for each comparison) revealed a significant difference

between the high and low reactance groups. The high and moderate groups were not significantly different, nor were the low and moderate groups. The results indicate that those high in psychological reactance ( $M = 32.16$ ) perceived Change Factor III to be more important or necessary to the process of change than those low in reactance ( $M = 30.39$ ), with those moderate in reactance falling between the two groups ( $M = 30.94$ ).

An examination of the mean response scores suggests that higher levels of psychological reactance are related to higher scores on Change Factor III (see Figure 1).

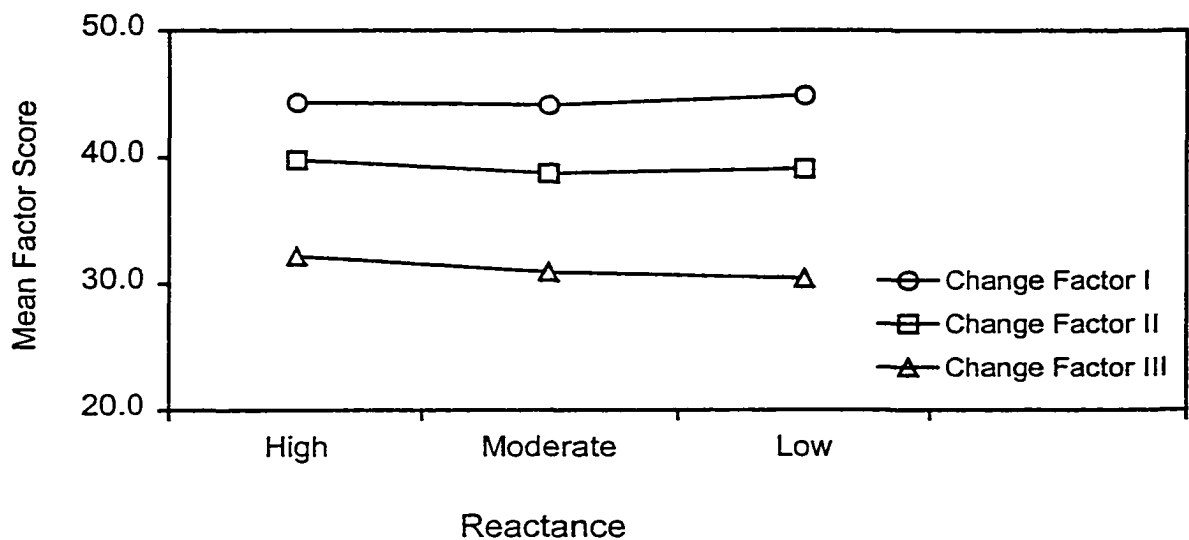


Figure 1. Mean factor scores and levels of psychological reactance on the factors of change.

An examination of Figure 1 indicates that mean response scores increase on Change Factor III (Cognitive and Affective Self-Experience) as the level of respondent reactance increases. This pattern suggests that individuals high in psychological reactance perceive

Change Factor III to be more important or necessary to the process of change than those low in psychological reactance. Conversely, those low in psychological reactance perceive Change Factor III to be less important or necessary to the process of change than those high in psychological reactance.

Hypothesis 2. The relationship between the four factors of Hong's Psychological Reactance Scale and the three factors of the Common Elements of Change Questionnaire was examined in Hypothesis 2.

The four factors of psychological reactance and the three factors of change were entered into a canonical correlation in order to examine the relationship between these two sets of variables. The results indicated that two of the three canonical variates are significant. The first canonical correlation is .212,  $F(12, 1093) = 3.05$ ,  $p < .0003$ , and accounts for 4.5% of the variance. The second canonical correlation is .183,  $F(6, 828) = 2.86$ ,  $p < .009$ , and accounts for 3.4% of the variance. A summary of the canonical correlation analysis is presented in Table 8.

The canonical structure of the three canonical functions is presented in Table 9. Correlations between the four factors of reactance and their canonical variate suggest that Reactance Factor III (Behavioral Freedom) and Reactance Factor IV (Reactance to Advice and Recommendations) are most strongly represented in the first canonical variate (.74 and .92, respectively). Reactance Factor I (Freedom of Choice) is most strongly represented in the second canonical variate at .90.

Correlations between the three factors of change and their canonical variate suggest that Change Factor III (Cognitive and Affective Self-Experience) is most strongly represented in the first canonical variate at .53. Change Factor I (Awareness and

Table 8

Summary of Canonical Correlation Analysis: Psychological Reactance and  
the Common Elements of Change

	Canonical function		
	1	2	3
Canonical correlation	.2121	.1832	.0833
Approximate standard error	.0467	.0472	.0485
Canonical R <sup>2</sup>	.0450	.0336	.0070
F statistic	3.0493	2.8647	1.4502
Probability	.0003	.0091	.2357

Preparation for Change) and Change Factor III (Cognitive and Affective Self-Experience) are most strongly represented in the second canonical variate (.57 and .74, respectively).

The cross-loading values for all three dimensions of change fail to meet the .30 minimum value suggested by Lambert and Durand (1975) as an acceptable minimum loading value. This indicates a poor association between psychological reactance and the factors of change. Therefore, while two of the three canonical functions are statistically significant, they fail to explain a large proportion of the criterion variance. As such, the functions have little explanatory value and, thus, practical significance.

Table 9

Canonical Structure of the Three Canonical Functions: Psychological Reactance and the Common Elements of Change

Canonical loadings			
Correlations Between the Factors of Reactance and Their Canonical Variates			
RFactor I	.4174	.9046	.0802
RFactor II	.2512	.3137	.3366
RFactor III	.7393	.1273	.6507
RFactor IV	.9219	.1510	-.2760
Correlations Between the Factors of Change and Their Canonical Variates			
CFactor I	-.3642	.5713	.7355
CFactor II	.3231	-.0543	.9448
CFactor III	.5251	.7354	.4283
Canonical cross-loadings			
Correlations Between the Factors of Reactance and the Change Canonical Variates			
RFactorI	.0885	.1657	.0067
RFactorII	.0533	.0575	.0280
RFactorIII	.1568	.0233	.0542
RFactorIV	.1955	.0277	-.0230
Correlations Between the Factors of Change and the Reactance Canonical Variates			
CFactorI	-.0772	.1047	.0613
CFactorII	.0685	-.0099	.0787
CFactorIII	.1114	.1347	.0357
<u>Note.</u> CFactorI, II, and III = factors I, II, and III of the Common Elements of Change Questionnaire. RFactorI, II, III, and IV = factors I, II, III, and IV of Hong's Psychological Reactance Scale.			

The relationship between Reactance Factor I and Change Factor I was not supported in Hypothesis 2. Additionally, the data analysis indicates that none of the factors of change are adequate predictors of psychological reactance, and none of the factors of psychological reactance are adequate predictors of change, thereby providing insufficient support for Hypothesis 2.

Hypothesis 3. The impact of desire for control on respondents' perceptions of common elements of change was examined in Hypothesis 3.

The three factors derived from the Common Elements of Change Questionnaire were entered into a one-way multivariate analysis of variance with three levels. Desire for control served as the independent variable. The three levels consisted of high, moderate, and low. The levels were determined by grouping the responses that were greater than one standard deviation above the mean into the high level; responses between one standard deviation below the mean to one standard deviation above the mean into the moderate level; and responses less than one standard deviation below the mean into the low level. The results revealed a significant multivariate main effect of desire for control on Change Factor III, Roy's Greatest Root = .018,  $F(3, 416) = 2.56$ ,  $p < .050$ . Since a significant overall main effect was found, Hypothesis 3 was supported.

The results of subsequent univariate analysis of variance indicated that there was a significant main effect of desire for control on Change Factor III,  $F(2, 417) = 3.81$ ,  $p < .022$ . No statistically significant results were found for Change Factors I and II. Newman-Keuls tests ( $p < .05$  for each comparison) revealed a significant difference between the high and low desire for control groups. There was also a significant difference between the high and moderate desire for control groups. The low and moderate groups were not

significantly different. The results indicate that those high in desire for control ( $M = 32.37$ ) perceived Change Factor III to be more important or necessary to the process of change than did those low in desire for control ( $M = 30.18$ ), with those moderate in desire for control falling between the two groups ( $M = 30.94$ ).

An examination of the mean response scores suggests that higher levels of desire for control are related to higher scores on Change Factor III. (see Figure 2). An examination of Figure 2 indicates that mean response scores increase on Factor III as the level of respondent desire for control increases. This pattern suggests that individuals high in desire for control perceive Change Factor III (Cognitive and Affective Self-Experience) to be more important or necessary to the process of change than those low in desire for control. Conversely, those low in desire for control perceive Change Factor III to be less important or necessary to the process of change than those high in desire for control.

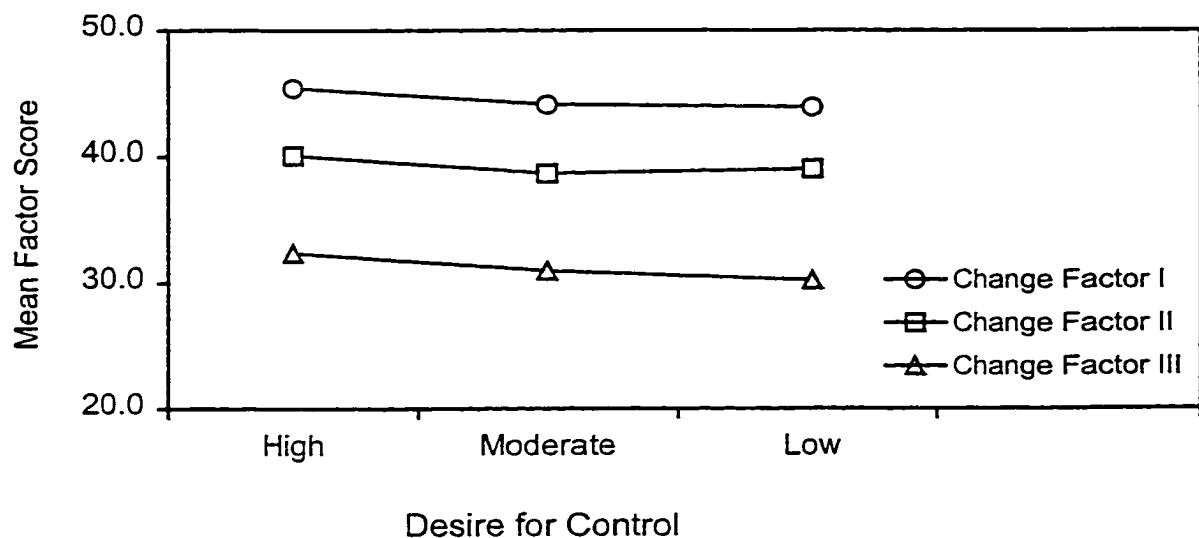


Figure 2. Mean factor scores and levels of desire for control on the factors of change.



Hypothesis 4. The relationship between the five factors of the Desirability of Control Scale and the three factors of the Common Elements of Change Questionnaire was examined in Hypothesis 4.

The five factors of control and the three factors of change were entered into a canonical correlation in order to examine the relationship between these two sets of variables. The results indicate that two of the three canonical variates are significant. The first canonical correlation is .304,  $F(15, 1138) = 3.86$ ,  $p < .0001$ , and accounts for 9.2% of the variance. The second canonical correlation is .171,  $F(8, 826) = 2.10$ ,  $p < .033$ , and accounts for 2.9% of the variance. A summary of the canonical correlation analysis is presented in Table 10.

Table 10

Summary of Canonical Correlation Analysis: Desire for Control and the Common Elements of Change

	Canonical function		
	1	2	3
Canonical correlation	.3037	.1705	.1033
Approximate standard error	.0443	.0474	.0483
Canonical $R^2$	.0922	.0291	.0107
F statistic	3.8591	2.0984	1.4882
Probability	.0001	.0336	.2172

The canonical structure of the three canonical functions is presented in Table 11.

Correlations between the five factors of desirability of control and their canonical variate suggest that Control Factor I (General Desire for Control), Control Factor II (Decisiveness), and Control Factor III (Preparation-Prevention Control) are most strongly represented in the first canonical variate (.56, .52, and .80, respectively).

Correlations between the three factors of change and their canonical variate suggest that Change Factor I (Initiation of Change) and Change Factor III (Cognitive and Affective Self-Experience) are most strongly represented in the first canonical variate (.86 and .50, respectively).

The cross-loading values for all three dimensions of change fail to meet the .30 minimum value suggested by Lambert and Durand (1975) as an acceptable minimum loading value. This indicates a poor association between desire for control and the factors of change. Therefore, while two of the three canonical functions are statistically significant, they fail to explain a large proportion of the criterion variance. As such, the functions have little explanatory value and, thus, practical significance.

The relationship between Control Factor I and Change Factor I was not supported in Hypothesis 4. Additionally, the data analysis indicates that none of the factors of change are adequate predictors of desire for control, and none of the factors of desire for control are adequate predictors of change, thereby providing insufficient support for Hypothesis 4.

Hypothesis 5. The relationship between the four factors of Hong's Psychological Reactance Scale and the five factors of the Desirability of Control Scale was examined in Hypothesis 5.

Table 11

Canonical Structure of the Three Canonical Functions: Desire for Control and the  
Common Elements of Change

Canonical loadings			
Correlations Between the Factors of Control and Their Canonical Variates			
DFactorI	.5587	.5655	-.1638
DFactorII	-.5173	-.0834	.3972
DFactorIII	.8010	-.2187	.5231
DFactorIV	.1550	.7171	.6729
DFactorV	-.0036	.1514	.1645
Correlations Between the Factors of Change and Their Canonical Variates			
CFactorI	.8625	-.3821	.3318
CFactorII	.0839	-.4834	.8714
CFactorIII	.5010	.3817	.7767
Canonical cross-loadings			
Correlations Between the Factors of Control and the Change Canonical Variates			
DFactorI	.1697	.0964	-.0169
DFactorII	-.1571	-.0142	.0410
DFactorIII	.2432	-.0373	.0540
DFactorIV	.0471	.1223	.0695
DFactorV	-.0011	.0258	.0170
Correlations Between the Factors of Change and the Control Canonical Variates			
CFactorI	.2619	-.0652	.0343
CFactorII	.0255	-.0824	.0900
CFactorIII	.1521	.0651	.0802

Note. CFactorI, II, and III = factors I, II, and III of the Common Elements of Change Questionnaire.

DFactorI, II, III, IV, and V = factors I, II, III, IV, and V of the Desirability of Control Scale.

The four factors of reactance and the five factors of desirability of control were entered into a canonical correlation in order to examine the relationship between these two sets of variables. The results indicate that three of the four canonical variates are significant. The first canonical correlation is .561,  $F(20, 1364) = 10.44$ ,  $p < .0001$ , and accounts for 31.5% of the variance. The second canonical correlation is .228,  $F(12, 1090) = 3.28$ ,  $p < .0001$ , and accounts for 5.3% of the variance. The third canonical correlation is .166,  $F(6, 826) = 2.83$ ,  $p < .0097$ , and accounts for 2.8% of the variance. Although the second and third canonical correlations are significant, they did not account for an acceptable proportion of the variance and will not be interpreted. A summary of the canonical correlation analysis is presented in Table 12.

Table 12

Summary of Canonical Correlation Analysis: Psychological Reactance and  
Desire for Control

	Canonical function			
	1	2	3	4
Canonical correlation	.5612	.2276	.1661	.1128
Approximate standard error	.0335	.0463	.0475	.0482
Canonical $R^2$	.3150	.0518	.0276	.0127
F statistic	10.4364	3.2847	2.8349	2.6666
Probability	.0001	.0001	.0097	.0707

The canonical structure of the four canonical functions is presented in Table 13.

Correlations between the four factors of reactance and their canonical variate suggest that all four of these factors are strongly represented in the first canonical variate (.848, .609, .790, and .742, respectively). Correlations between the five factors of desirability of control and their canonical variate suggest that Control Factor I (general desire for control), Control Factor IV (avoidance of dependence), and Control Factor V (leadership) are most strongly represented in the first canonical variate (.718, .881 and .603, respectively).

An examination of the structural coefficients for the first canonical function indicates that the composite score for the reactance items is significantly related to a General Desire for Control (e.g., control over one's own destiny), Avoidance of Dependence (e.g., avoid situations where one is told what to do), and Leadership (e.g., rather take leadership role in a group situation). The cross-loading values for these three dimensions of control exceed the minimum acceptable value of .30. A closer inspection of the structural coefficients reveals that Reactance Factor I (Freedom of Choice) is most significantly related to Control Factor IV (Avoidance of Dependence), providing support for Hypothesis 5. These findings suggest that free will and independent decisions are related to one's ability to avoid situations in which one is told what to do.

### Summary of Chapter 3

The Results section presented a demographic description of the 420 individuals that participated in the present study. An examination of gender effects was presented next indicating no association between the gender of respondents and their responses. An outline of the factor analysis that was performed in order to construct the dependent

Table 13

Canonical Structure of the Four Canonical Functions: Psychological Reactance and  
Desire for Control

Canonical loadings				
Correlations Between the Reactance Variables and Their Canonical Variates				
HFactorI	.8482	-.5216	-.0905	-.0189
HFactorII	.6088	.1573	.3596	.6894
HFactorIII	.7899	.4404	-.4191	-.0797
HFactorIV	.7417	.1912	.4964	-.4085
Correlations Between the Control Variables and Their Canonical Variates				
DFactorI	.7176	-.5992	.2280	-.2720
DFactorII	.2401	.7715	.5703	-.1185
DFactorIII	.2951	-.1661	-.1817	-.2154
DFactorIV	.8805	.2416	-.3890	-.1204
DFactorV	.6031	-.2812	.3343	.6575
Canonical cross-loadings				
Correlations Between the Reactance Variables and the Control Canonical Variates				
HFactorI	.4760	-.1187	-.0150	-.0021
HFactorII	.3417	.0358	.0597	.0777
HFactorIII	.4433	.1002	-.0696	-.0090
HFactorIV	.4163	.0435	.0824	-.0461
Correlations Between the Control Variables and the Reactance Canonical Variates				
DFactorI	.4027	-.1364	.0379	-.0307
DFactorII	.1348	.1756	.0947	-.0134
DFactorIII	.1656	-.0378	-.0302	-.0243
DFactorIV	.4941	.0550	-.0646	.0742
DFactorV	.3385	-.0640	.0555	.0742
<u>Note.</u> HFactorI, II, III, and IV = factors I, II, III, and IV of Hong's Psychological Reactance Scale. DFactorI, II, III, IV, and V = factors I, II, III, IV, and V of the Desirability of Control Scale.				

variable measures was presented next. Three factors were identified. Results of the research hypotheses were then presented. Hypotheses 1, 3, and 5 were supported. Hypotheses 2 and 4 were not supported.

## CHAPTER 4

### Discussion

The main purpose of the present study was twofold. First, the author conducted an investigation of the impact of psychological reactance and desire for control on perceptions of common elements of cognitive, affective, and behavioral change. Second, the author examined the relationship between psychological reactance and desire for control. More specifically, the present study was conducted in order to determine:

1. Whether participants high in psychological reactance differ significantly from those participants low in psychological reactance in their perception of Factor III (i.e., Cognitive and Affective Self-Experience) of the common elements of change ( $H_1$ ).
2. The nature of the relationship between the factors of psychological reactance and the factors of the common elements of change ( $H_2$ ).
3. Whether participants high in desire for control differ significantly from those participants low in desire for control in their perception of Factor III (i.e., Cognitive and Affective Self-Experience) of the common elements of change ( $H_3$ ).
4. The nature of the relationship between the factors of desire for control and the factors of the common elements of change ( $H_4$ ).
5. The nature of the relationship between the factors of psychological reactance and the factors of desire for control ( $H_5$ ).



## Research Hypotheses

### Hypothesis 1

Results of the data analysis provided support for Hypothesis 1. Hypothesis 1 was an examination of the relationship between psychological reactance and respondents' perceptions of the necessity or importance of Change Factor III (Cognitive and Affective Self-Experience) to the process of change. Results of the MANOVA revealed a significant multivariate main effect due to psychological reactance. Subsequent univariate analysis of variance indicated a significant main effect of psychological reactance on Change Factor III (Cognitive and Affective Self-Experience). Post hoc analysis indicated a significant difference between the high and low reactance groups. These findings suggest that individuals high in psychological reactance perceive a cognitive and affective experiencing of the self to be more important or necessary to the process of change than those low in psychological reactance. Conversely, those low in psychological reactance perceive a cognitive and affective experiencing of the self to be less important or necessary to the process of change than those high in psychological reactance.

The perception of the relative importance of Cognitive and Affective Self-Experience that was reported by the high reactance group of respondents is possibly due to the pervasive motivational disposition of psychological reactance. There are two plausible explanations for the results obtained in Hypothesis 1. The explanations are as follows:

Explanation A. Explanation A suggests that Change Factor III is perceived as more necessary or important to those high in psychological reactance because cognitive and

affective self-experience is, for them, not easily attainable. Although Change Factor III is seen as a necessary condition for change, it may also have been perceived as quite threatening and personally disruptive.

Change Factor III reflects the subjectivistic, experiential aspects of the process of change much more than Change Factors I or II. To those participants high in reactance, this self-evaluative facet of Change Factor III may have been perceived as more threatening than the relatively objective, detached dimensions of change reflected in Change Factors I and II. The prospect of expanding one's boundaries of the self is inherently a part of such self-evaluation and may have been quite intimidating to those high in reactance since it, presumably, involves relinquishing some degree of control and freedom. Those high in reactance may have perceived Change Factor III as representative of the self-satisfaction and personal gain realized due to a sincere engagement in the change process. They likely perceived the experiential aspect of Change Factor III to be highly desirable and rewarding, but at the same time, a challenging and difficult proposition. Change Factors I and II may have been perceived as being more easily attainable and less personally disruptive than Change Factor III by those high in reactance and thus, would not have evoked the reactance potential.

Explanation B. While Explanation A represents an honest evaluation of Change Factor III by those high in psychological reactance, Explanation B suggests a biased, self-deceptive evaluation of the factor. The importance of Change Factors I and II may have been minimized by those high in reactance if the factors were perceived as more threatening than Change Factor III. The experiential aspect of Change Factor III could represent less of a threat than the more overt, objective aspects of Change Factors I and

II. The subjective aspect of Change Factor III may have been interpreted as a type of refuge from threats to freedom and control. For example, Change Factor III may have been perceived as, personally, more easily feigned or manipulated (through self-deception) than Change Factors I and II. Factor III would, thus, be more advantageous in regard to the maintenance of perceived freedom and control.

Change Factor III reflects the subjectivistic, experiential aspects of the process of change. Change Factors I and II both represent an active involvement in the change process. Respondents high in reactance may have perceived Change Factor III to be more important due to their desire to avoid the necessity of change that is implied by Change Factors I and II. Those high in reactance likely responded based on the biased assumption that Change Factors I and II would be more intrusive or restrictive (due to the implied necessity for change) and, thus, more of a potential threat to perceived freedoms. Kelley (1971) referred to such an introduction of biases into one's explanations and noted that the purpose of causal analysis and attribution for events in one's world is the effective exercising of control in the world.

The findings of the post hoc analysis are also noteworthy concerning the introduction of bias into the perceptions of respondents. As evidenced by mean response scores, the relative importance of Change Factor III increases as participants' levels of psychological reactance increases. This observation suggests the possibility that more bias is introduced into respondents' perceptions of change Factor III and that the factor becomes more self-relevant as a function of the level of psychological reactance.

## Hypothesis 2

The hypothesized relationship between both Reactance Factor I and Reactance Factor III with Change Factor I was not supported. Hypothesis 2 was an examination of the relationship between the factors of psychological reactance and the factors of the common elements of change. It was hypothesized that there would be a significant, positive relationship between both Reactance Factor I (Freedom of Choice) and Reactance Factor III (Behavioral Freedom) with Change Factor I (Awareness and Preparation for Change). The results of Hypothesis 2 indicate a weak, non-significant association between psychological reactance and the factors of change. Although the data analysis revealed statistically significant canonical functions, these functions fail to explain an acceptable proportion of the criterion variance. Based on the results of the data analysis, the functions have little explanatory value and, thus, little practical significance. The results indicate that none of the factors of psychological reactance are adequate predictors of the factors of change.

The results of Hypothesis 1 and Hypothesis 2 are noteworthy concerning the relationship between psychological reactance and the factors of change. The results of Hypothesis 2 indicate a poor association between the factors of psychological reactance and the factors of change. However, the results of Hypothesis 1 indicate a significant difference between those high and low in reactance on perceptions of the importance of Change Factor III. This suggests that, although no specific dimension of psychological reactance is related to any of the dimensions of change, a general measure of one's level of potential for reactance is related to certain dimensions of change. One possible explanation for the aforementioned relationships is the multidimensional nature of

psychological reactance. There could also be methodological reasons. For example, the factors have fewer items and are, therefore, less reliable.

### Hypothesis 3

Results of the data analysis provided support for Hypothesis 3. Hypothesis 3 was an examination of the relationship between desire for control and respondents' perceptions of the necessity or importance of Change Factor III (Cognitive and Affective Self-Experience) to the process of change. Results of the MANOVA revealed a significant multivariate main effect due to desire for control. Subsequent univariate analysis of variance indicated a significant main effect of desire for control on Change Factor III (Cognitive and Affective Self-Experience). Post hoc analysis indicated a significant difference between the high and low desire for control groups. These findings suggest that individuals high in desire for control perceive a cognitive and affective experiencing of the self to be more important or necessary to the process of change than those low in desire for control. Conversely, those low in desire for control perceive a cognitive and affective experiencing of the self to be less important or necessary to the process of change than those high in desire for control.

The findings for Hypothesis 3 are consistent and very similar to those of Hypothesis 1, with a significant difference in respondents' perceptions being noted on Change Factor III. The perception of the relative importance of Cognitive and Affective Self-Experience that was reported by the high desirability of control group of respondents is possibly due to the pervasive motivational disposition of desirability of control. There are two plausible explanations for the results obtained in Hypothesis 3. The explanations are as follows:

Explanation A. Explanation A suggests that Change Factor III is perceived as more necessary or important to those high in desire for control because cognitive and affective self-experience is, for them, not easily attainable. Although Change Factor III is seen as a necessary condition for change, it may also have been perceived as quite threatening and personally disruptive.

Change Factor III reflects the subjectivistic, experiential aspects of the process of change much more than Change Factors I or II. To those participants high in desire for control, this self-evaluative facet of Change Factor III may have been perceived as threatening. The prospect of expanding one's boundaries of the self is inherently a part of such self-evaluation and may have been quite intimidating to those high in desire for control since it, presumably, involves relinquishing some degree of control. Those high in desire for control may have perceived Change Factor III as representative of the self-satisfaction and personal gain realized due to a sincere engagement in the change process. They likely perceived the experiential aspect of Change Factor III to be highly desirable and rewarding, but at the same time, a challenging and difficult proposition. Change Factors I and II may have been perceived as being more easily attainable and less personally disruptive than Change Factor III by those high in desire for control and thus, would not have evoked the control potential.

Explanation B. While Explanation A represents an honest evaluation of Change Factor III by those high in desire for control, Explanation B suggests a biased, self-deceptive evaluation of the factor. The importance of Change Factors I and II may have been minimized by those high in desire for control if the factors were perceived as more threatening than Change Factor III. The experiential aspect of Change Factor III could

represent less of a threat than the more overt, objective aspects of Change Factors I and II. The subjective aspect of Change Factor III may have been interpreted as a type of refuge from threats to freedom and control. For example, Change Factor III may have been perceived as, personally, more easily feigned or manipulated (through self-deception) than Change Factors I and II. Factor III would, thus, be more advantageous in regard to the maintenance of perceived freedom and control.

Change Factor III reflects the subjectivistic, experiential aspects of the process of change. Change Factors I and II both represent an active involvement in the change process. Respondents high in desire for control may have perceived Change Factor III to be more important due to their desire to avoid the necessity of change implied in Change Factors I and II. Those high in desire for control likely responded based on the biased assumption that Change Factors I and II would be more intrusive or restrictive (due to the implied necessity for change) and, thus, more of a potential threat to perceived personal control. Kelley (1971) referred to such an introduction of biases into one's explanations and noted that the purpose of causal analysis and attribution for events in one's world is the effective exercising of control in the world.

The findings of the post hoc analysis are also noteworthy concerning the introduction of bias into the perceptions of respondents. As evidenced by mean response scores, the relative importance of Change Factor III increases as participants' levels of desire for control increases. This observation suggests the possibility that more bias is introduced into respondents' perceptions of change Factor III and that the factor becomes more self-relevant as a function of the level of desire for control.

#### Hypothesis 4

The hypothesized relationship between both Control Factor I and Control Factor IV with Change Factor I was not supported. Hypothesis 4 was an examination of the relationship between the factors of desire for control and the factors of the common elements of change. It was hypothesized that there would be a significant, positive relationship between both Control Factor I (General Desire for Control) and Control Factor IV (Avoidance of Dependence) with Change Factor I (Awareness and Preparation for Change). The results of Hypothesis 4 indicate a weak, non-significant association between desire for control and the factors of change. Although the data analysis revealed a statistically significant canonical function, the function fails to explain an acceptable proportion of the criterion variance. As such, the functions have little explanatory value and, thus, little practical significance. The results indicate that none of the factors of change are adequate predictors of the factors of desire for control.

The results of Hypothesis 3 and Hypothesis 4 are noteworthy concerning the relationship between desire for control and the factors of change. The results of Hypothesis 4 indicate a poor association between the factors of desire for control and the factors of change. However, the results of Hypothesis 3 indicate a significant difference between those high and low in desire for control on perceptions of the importance of Change Factor III. This suggests that, although no specific dimension of desire for control is related to any of the specific dimensions of change, a general measure of one's level of potential for desire for control is related to certain dimensions of change. One possible explanation for the aforementioned relationships is the multidimensional nature



of desire for control. There could also be methodological reasons. For example, the factors have fewer items and are, therefore, less reliable.

### Hypothesis 5

The analysis of collected data provided support for Hypothesis 5. Hypothesis 5 was an examination of the nature of the relationship between the factors of psychological reactance and the factors of desire for control. It was hypothesized that there would be a significant positive relationship between a set or subset of the factors of Hong's Psychological Reactance Scale and a set or subset of the factors of the Desirability of control Scale. The results of the data analysis indicated that three of the four canonical variates were statistically significant. Further investigation revealed that the composite score for the reactance items was significantly related to a General Desire for Control (e.g., control over one's own destiny), Avoidance of Dependence (e.g., avoid situations where one is told what to do), and Leadership (e.g., rather take leadership role in a group situation).

Results of the data analysis further indicated that Reactance Factor I (Freedom of Choice) was significantly related to Control Factor IV (Avoidance of Dependence). These findings suggest that free will and independent decisions are related to one's ability to avoid situations in which one is told what to do. For example, if one is provided choices and has the freedom to make independent decisions, then one is, conceivably, less dependent and less likely to be controlled by others. Both Reactance Factor I and Control Factor IV pertain to the preservation of freedoms. The maintenance of freedoms is a tenet central to both psychological reactance and desire for control.

The similarity of results of Hypotheses 1 and 3 are noteworthy concerning Hypothesis 5. Significant differences in respondents' perceptions of Change Factor III (Cognitive and Affective Self-Experience) were recorded in both Hypothesis 1 and Hypothesis 3. That is, those high in psychological reactance and those high in desire for control both responded similarly concerning their perceptions of Change Factor III. These similarities provide additional support for the relationship between psychological reactance and desire for control. Such a relationship suggests corresponding motivational dispositions between those high in psychological reactance and those high in desire for control – particularly as such motivational dispositions relate to the maintenance of personal control and freedoms.

#### General Discussion of the Research Hypotheses

Two viable explanations were presented for the results obtained in Hypothesis 1. Likewise, two viable explanations were presented for the results obtained in Hypothesis 3. The pair of explanations are very similar for both psychological reactance and desire for control.

Explanation A suggests that Change Factor III was perceived as being more self-relevant or personally important to those high in psychological reactance and desire for control because it is not as easily attainable and is more personally disruptive than either Change Factor I or II. As previously discussed, Change Factor III may have been perceived as less attainable due to the subjectivistic, experiential nature of the factor. The paradox here is that reaching such a level of cognitive and affective self-experience probably represents the apex of both possessing and maintaining some aspect of personal control, however, it initially requires relinquishing some degree of personal freedom and

control by those high in psychological reactance and desire for control in order to achieve such freedom and control. At this point, one is likely to scrutinize the utility of the proposed change. The utility is the subjective value an individual places on the expected outcome of the proposed change. Moreover, the core self is likely to experience some degree of disequilibrium upon assessment of the subjective value of the proposed change. There is general agreement that a "good" therapy client is characterized by sufficient distress to be motivated for treatment and by the capacity to profit from a helping relationship. This may be the aforementioned time of disequilibrium. Those high in reactance and desire for control are likely to have a strong need for control of subjective experience. Particularly, they may prefer to control their emotions. If so, Change Factor III could be especially threatening.

Those high in psychological reactance and desire for control may have rated Change Factor III as more important or necessary because it is the most difficult aspect of change for them personally. In order to realize second-order change (i.e., change that alters the fundamental structure of the system), one must do more than just go through the motions of changing. They must take certain steps in order to alter the core self. Change Factor III might represent what those high in psychological reactance and desire for control consider unattainable and most threatening since it involves relinquishing some measure of freedom and control.

Explanation B suggests that Change Factor III was perceived as being more relevant or important to those high in psychological reactance and desire for control because it is not as threatening as the more objective dimensions of change reflected in Change Factors I and II. This is due to an introduction of bias into one's explanations – in the

present case: the perceptions of respondents. The relative importance of Change Factor III was shown to increase as participants' levels of psychological reactance and desire for control increased. This observation suggests that more bias is introduced into the respondents' perceptions of Change Factor III and that the factor becomes more self-relevant as a function of the level of psychological reactance or desire for control. Respondents high in reactance may have maintained biases as expectations of personal freedoms. Likewise, those respondents high in desire for control may have maintained biases as expectations of personal control. Thus, both of their perceptions of Change Factor III may have been based on an attitudinal position pertaining to the enhancement of control or freedoms.

Brehm and Brehm (1981) note that having control means that one can maximize desirable outcomes and minimize undesirable ones. Results contrary to the present findings (based on different perceptions of the respondents) would probably have been the result of the minimization of an undesirable outcome. It is logical to assume that those high in psychological reactance and desire for control will remain hypervigilant in an effort to maintain freedoms and control. Deci (1980; Deci & Ryan, 1985) drew a distinction between control and what was termed self-determination. Deci argued that people may not always prefer to control what happens to themselves. Rather, they are motivated to maintain a sense of choice over what happens to them, that is, their behavior is experienced as self-determined. The present results suggest that this motivation will differ based on one's level of psychological reactance and desire for control. Those high in psychological reactance and desire for control are more likely to be motivated to

maintain a sense of choice over what happens to them and to perceive their behavior as self-determined.

Concerning perceptions, Mahoney (1991) notes that the central tenet of constructivism is that people actively organize and construct their perceptions of the world into meaning systems known as cognitive schemata. These schemata are organizing frameworks that both are created by and in turn create the individual's view of reality. For example, the reactant individual has been conceptualized as one who values freedom from restraint, whether perceived or actual (Dowd & Wallbrown, 1993). In highly reactant individuals, the perception of any form of restraint is likely to have a bearing on the creation of that individual's view of reality. Such an organizing framework may have influenced respondents' perceptions of the factors of change in the present study.

Kelley (1971) suggests that the purpose of causal analysis and attribution for events in one's world is the effective exercising of control in the world. Kelley further notes that this desire for control is responsible, in part, for the introduction of biases into explanations. Relevant to Explanation B, such biases could possibly have influenced respondents' perceptions of Change Factor III in both Hypothesis 1 and Hypothesis 3. Constructivists view behavior as a blend of two ways of dealing with reality: changing the self when the environment cannot be controlled, and changing the environment when control is possible (Kimble, 1994). Changing the self could include changing one's perceptions through the introduction of biases and self-deception. Such self-deception might play a protective role for those high in psychological reactance and desire for

control. It may enable those individuals to maintain the biased perception that they have freedoms and personal control when, in fact, they do not.

Change Factor III (Cognitive and Affective Self-Experience) was the only factor of change that was associated with the perceived possession of personal freedoms. The factor relates more to the subjective experiencing of various rewarding, reinforcing aspects of an engagement in the change process than either Change Factor I or Change Factor II. Relevant to Explanation B, this may be the reason that Change Factor III was not perceived to be as much of a potential threat to freedoms or personal control as Change Factors I and II. Change Factor III may, in fact, have been perceived as enhancing freedoms or control by those high in psychological reactance or desire for control since it is the only one of the three factors of change associated with greater freedom and personal control. Change Factor III implies freedom from the constraints of problems, or freedom from decisions concerning problems. As such, the factor suggests a release from constraining boundaries that those high in psychological reactance and desire for control may find appealing.

### Implications

The present study's emphasis on perceptions is relevant to therapeutic processes and may provide a useful perspective for understanding the therapeutic relationship – in particular, the resistance to therapeutic interventions and possible termination agendas. For example, the lack of personal control that is normatively experienced by some clients during the therapeutic encounter is likely to be perceived as a potent threat to personal freedom by the psychologically reactant client.

Dowd & Wallbrown (1993) note that reactant individuals tend to attempt to control events rather than let events control them. In this case, treatment techniques low in persuasive content could possibly reduce the introduction of biases by increasing a client's perception of personal freedom. Likewise, insight-oriented treatments might be more effective for highly reactant clients than most forms of behavioral treatments since they involve less direction by the therapist and, thus, less persuasive content. Less direction by the therapist may also be perceived as less restraining by those high in psychological reactance and desire for control. Beutler (1979) noted that affective insight therapy should be superior to cognitive therapy for the same reason. Moreover, Beutler noted that for clients with low resistance potential, noninsight treatments should be superior to insight treatments because such clients are assumed to seek external direction. In one study (Beutler et.al., 1991), the resistance potential of participants was evaluated based on psychotherapy types. Resistant, defensive participants showed more improvement with supportive, self-directed therapy rather than cognitive therapy. Conversely, participants with low resistance potential showed the greatest improvement with cognitive therapy rather than with supportive, self-directed therapy.

The matter of client-therapist matching has received research attention with conflicting results (Garfield, 1994). Garfield notes that although client-therapist similarity or complementarity is likely to be important in the therapeutic encounter, the way in which treatment interventions are planned and conducted by therapists (and thus, perceived by clients) may be even more important. This could be particularly relevant as therapists attempt to facilitate attitudinal and behavioral change in clients that are high in psychological reactance or desire for control. Understanding the ways in which those

with a high potential for reactance or control perceive both psychological change and the therapeutic process might prove beneficial. Information concerning a client's orientation to the process of change could assist in case conceptualization, aid in the construction of treatment interventions, and suggest an optimal course of treatment. This would likely create a therapeutic environment conducive to positive outcomes, thereby increasing the effectiveness and success of the therapeutic encounter. Moreover, shifting some attention to encouraging selected dimensions of change early in therapy may have the net effect of making remaining therapy sessions more productive, thereby increasing the likelihood of attitudinal or behavioral change.

Results of the present study suggest that a therapist's ability to recognize a client's orientation to the process of change may provide a baseline from which to effectively begin therapy. Failure to recognize a client's notion or perception of change could possibly impede the therapeutic process and, thus, reduce the likelihood of positive treatment outcomes. For example, gaining insight into problem behaviors might seem more relevant to the process of change for one individual, while directly changing particular problem behaviors might seem more relevant to another. More specifically, if a client's perception of psychotherapeutic change is subjectivistic in nature (e.g., gaining greater awareness or insight into problem behaviors), then certain behavior therapies that are based on altering relationships between overt behaviors and their consequences might not be the most effective initial choice. Likewise, if a client's perception of psychotherapeutic change is objectivistic in nature (e.g., the notion of problem behaviors being changed), then Gestalt therapy might not be the most effective initial choice since the goal of Gestalt phenomenological exploration is awareness, or insight. Although both



theoretical approaches are appropriate means for ultimately resolving a client's issues, the baseline from which each client expects to begin work on the issues may be quite different depending on the client's perception of the nature of psychological change.

Garfield (1994) has noted that early perceptions and reactions of clients appear to be of great importance for both continuation and outcome in psychotherapy. If therapists remain sensitive to the special needs and characterological differences (e.g., reactance, desire for control) of their clients and make adjustments in treatment interventions accordingly, then the likelihood of positive outcomes and continuation in therapy should be greater. Many different factors are present in the therapeutic encounter (e.g., client variables, therapist variables, therapeutic approaches to treatment). Garfield has noted that therapeutic interactions based on only one of the variables involved will probably be less successful than those based on the totality of the therapeutic intervention. This may be particularly true for difficult clients, such as those that are high in psychological reactance and desire for control. As well, highly reactant and controlling individuals are likely to benefit more from a therapeutic environment in which the therapist takes their perspective seriously and respects it. This form of acceptance by a therapist should be understood as a willingness to utilize the client's own personal knowledge system, while not necessarily being bound by it. Such a therapeutic environment could positively influence compliance with treatment interventions, lead to a stronger therapeutic alliance, possibly resulting in more positive treatment outcomes.

#### Limitations

Two limitations of the present study warrant mentioning. First, regarding external validity, the results can be generalized only to individuals with demographic

characteristics similar to those of the participants. Ultimately, cross-validating the present investigation with other samples is important. Because the study included only non-therapist and non-clinical participants, ratings from other groups (e.g., therapists, clinical populations) may have offered alternate results.

Second, methodological issues should be addressed in future research concerning the common elements of change. The Common Elements of Change Questionnaire was developed for use in the present study and further information about the validity, reliability, and norms is necessary. The factor structure of the Common Elements of Change Questionnaire should be cross-validated as well.

#### Future Research

First, future research is needed to replicate and extend the findings of the present study. Currently, the present investigation is the first to evaluate the impact of individual difference variables on perceptions of factors of psychological change. Replication of the present study with both young and elderly populations could prove to be informative. For example, children and the elderly generally tend to be in life situations where their objective level of control over life events is lessened (e.g., children have little social power; middle-age adults and the elderly confront inevitable life changes of aging). The relationships between psychological reactance, desire for control, and the perception of change may be different with these groups since they are likely to have less objective control over many life events.

Second, future research should focus on distinguishing between Explanation A and Explanation B for Hypothesis 1 and Hypothesis 3. Two viable explanations were provided for the results obtained in the hypotheses. A distinction could be made, perhaps,

by simply asking those with high and low levels of psychological reactance and desire for control why Change Factor III (Cognitive and Affective Self-Experience) is more significant or important to them.

Next, although it is important to know what individuals' needs are from their own perspectives, it may also be helpful to gather information on the same questions from professionals in the field. Perceptions of prospective clients could then be compared to those of helping professionals. In addition to a group composed of helping professionals, a clinical group would be needed to complete the picture of the relationship between individuals' perceptions of change and the impact of such perceptions on therapeutic processes.

Next, more refined measures of psychological reactance and desire for control need to be developed. For example, although Brehm (1966) introduced reactance theory in the mid 1960s, adequate measures of psychological reactance have only recently begun to be developed. Advances in measurement instruments would allow both reactance and desire for control to be more thoroughly and accurately examined, possibly providing confirmation of the dimensions of both. Development of more domain-specific measures of psychological reactance and desire for control (e.g., reactance to therapy, reactance to authority, reactance to family members) could also serve to enhance predictability.

Lastly, the three factors of change identified in the present study show some similarity to a model of stages of change proposed by Prochaska, DiClemente, and Norcross (1992). The model is composed of five stages that are identified as follows: Stage 1 – precontemplation, Stage 2 – contemplation, Stage 3 – preparation, Stage 4 – action, and Stage 5 – maintenance.

During the precontemplation stage there is no intent to change, nor is there any awareness of the need to change. During the contemplation stage, there is an awareness of the need to change but no commitment to change. The preparation stage combines intention and behavioral criteria, but no effective action has yet been taken. During the action stage, behavior, experiences, and environment are overtly modified. Gains are consolidated and measures are taken to prevent regression during the maintenance stage.

Factor I of the Common Elements of Change (Awareness and Preparation for Change) relates closely to the preparatory aspect of Stages 2 and 3. In Change Factor I, as well as Stages 2 and 3, there is awareness, intent, and preparation, but no effective action has yet been taken. Factor II of the Common Elements of Change (Initiation of Change) relates closely to the engagement aspect of Stage 4. In both Change Factor II and Stage 4, action is being taken and overt changes are occurring. Factor III of the Common Elements of Change (Cognitive and Affective Self-Experience) relates closely to the gain consolidation aspect of Stage 5. Change Factor III represents a dimension essential for the maintenance of gains experienced as a result of an engagement in the change process. Further research could provide information concerning the relationship between the stages of change and prerequisite variables of psychological change.

### Conclusion

The results of the present study have implications for broadening one's understanding of both psychological reactance and desire for control, as well as for the potential influence of these individual difference variables on perceptions of change.

Strupp (1978) noted that although clients differ on a multitude of dimensions that are related in complex ways, much more research has been done on the effectiveness of

therapeutic techniques than on client characteristics that mediate the effectiveness of those techniques. Moreover, despite evidence that specific therapy techniques are not the most influential factor in the outcome of therapy, as supported both by the research (Bergin & Lambert, 1978; Lambert, 1989) and by practitioners (Mahoney & Craine, 1991), much of the psychotherapy research over the past decade has focused on techniques (Lambert, 1989). Bergin and Lambert (1978) have reported that technique is less important to successful psychotherapy outcome and behavioral change than either client variables or therapist variables. Consequently, there is a need for research concerning the client-centered variables associated with psychotherapeutic change. This research should include both those variables that impede psychotherapeutic change and those that support such change.

A study of the effects of specific client variables in psychotherapy is perhaps the most significant recent development in psychotherapy research (Dowd, et al., 1991). The study of individual differences in perceptions of change may provide new insights into common change processes. Both therapist and client stand to benefit, since dissimilarity in the perception of prerequisite elements of change could result in a weak therapeutic alliance. Moreover, the expression of psychological reactance and desire for control is likely to be greater when a client's perception of change is not considered during the design of treatment interventions. A more precise understanding of the ways in which humans perceive psychological change is one means by which those in the helping professions might arrive at a deeper understanding of the complex processes of psychological change. By doing so, it is possible that these professionals might also gain a more thorough understanding of psychotherapeutic processes.

## Appendix A

## Common Elements of Change Questionnaire

**QUESTIONNAIRE**

The following is a list of factors that could be related to the process of change (i.e., meaningful personal change, therapeutic change). Please rate each factor based on your opinion of how important or necessary the factor is to the change process. There are no right or wrong answers, but your opinion is important. The accompanying scales should be rated by circling one number from 1 to 7 based on the following:

- 1 = Never a factor of change
- 2 = Almost never a factor of change
- 3 = Seldom a factor of change
- 4 = Sometimes a factor of change
- 5 = Often a factor of change
- 6 = Almost always a factor of change
- 7 = Always a factor of change

Never - Almost - Seldom - Sometimes - Often - Almost - Always  
Never Always

- |   |                                 |
|---|---------------------------------|
| 1. A new view or perspective of oneself is necessary.                                       | 1----2----3----4----5----6----7 |
| 2. Gaining a new perspective of the problem or stressful situation is necessary.            | 1----2----3----4----5----6----7 |
| 3. A new perspective or restructuring of the world in general is necessary.                 | 1----2----3----4----5----6----7 |
| 4. Effort or will is necessary.   | 1----2----3----4----5----6----7 |
| 5. A goal or plan is necessary.   | 1----2----3----4----5----6----7 |
| 6. A sense of necessity for change is necessary.  | 1----2----3----4----5----6----7 |
| 7. A willingness to experience anxiety or difficulty is necessary.                          | 1----2----3----4----5----6----7 |
| 8. Facing-up or confronting the problem or stressful situation is necessary.                | 1----2----3----4----5----6----7 |
| 9. Stepping back or detaching oneself from the problem or stressful situation is necessary. | 1----2----3----4----5----6----7 |

	Never - Almost - Seldom - Sometimes - Often - Almost - Always Never Always
10. Release of tension or emotion is necessary.	1----2----3----4----5----6----7
11. A sense of being released or freed from a problem or burden is necessary.	1----2----3----4----5----6----7
12. Becoming aware or conscious of the problem or stressful situation is necessary.	1----2----3----4----5----6----7
13. A sense of freedom to pursue options is necessary.	1----2----3----4----5----6----7
14. Becoming more tolerant or accepting of a particular person, situation, or problem is necessary.	1----2----3----4----5----6----7
15. Experiencing a sense of becoming more yourself is necessary.	1----2----3----4----5----6----7
16. Insight or understanding is necessary.	1----2----3----4----5----6----7
17. A sense of mastery is necessary.	1----2----3----4----5----6----7
18. A greater or enhanced sense of meaning is necessary.	1----2----3----4----5----6----7
19. A change in thoughts or thinking about a problem or situation is necessary.	1----2----3----4----5----6----7
20. Problem solving is necessary.	1----2----3----4----5----6----7
21. Making a decision to change is necessary.	1----2----3----4----5----6----7
22. The influence of hope (hope of change) is necessary.	1----2----3----4----5----6----7
23. Belief in one's own capability of overcoming a problem or stressful situation is necessary.	1----2----3----4----5----6----7
24. Changing a behavior (self-determined behavior change) is necessary.	1----2----3----4----5----6----7

## Appendix B

## Hong's Psychological Reactance Scale

Below you will find a series of statements. Please read each statement carefully and respond to it by expressing the extent to which you agree or disagree with the statement. For all items, a response from 1 to 5 is required. Use the number that best reflects your opinion when the scale is defined as follows:

- 1 = I disagree completely
- 2 = I disagree somewhat
- 3 = I neither agree nor disagree
- 4 = I agree somewhat
- 5 = I agree completely

disagree completely    disagree somewhat    neither agree nor disagree    agree somewhat    agree completely

1. Regulations trigger a sense of resistance in me. 1-----2-----3-----4-----5
2. I find contradicting others stimulating. 1-----2-----3-----4-----5
3. When something is prohibited, I usually think "that's exactly what I am going to do." 1-----2-----3-----4-----5
4. The thought of being dependent on others aggravates me. 1-----2-----3-----4-----5
5. I consider advice from others to be an intrusion. 1-----2-----3-----4-----5
6. I become frustrated when I am unable to make free and independent decisions. 1-----2-----3-----4-----5
7. It irritates me when someone points out things that are obvious to me. 1-----2-----3-----4-----5
8. I become angry when my freedom of choice is restricted. 1-----2-----3-----4-----5
9. Advice and recommendations usually induce me to do just the opposite. 1-----2-----3-----4-----5
10. I am contented only when I am acting of my own free will. 1-----2-----3-----4-----5



disagree      disagree      neither agree      agree      agree  
completely    somewhat    nor disagree    somewhat    completely

11. I resist the attempts of others to influence me. 1-----2-----3-----4-----5
12. It makes me angry when another person is held up as a role model for me to follow. 1-----2-----3-----4-----5
13. When someone forces me to do something, I feel like doing just the opposite. 1-----2-----3-----4-----5
14. It disappoints me to see others submitting to society's standards and rules. 1-----2-----3-----4-----5

## Appendix C

## Desirability of Control Scale

Below you will find a series of statements. Please read each statement carefully and respond to it by expressing the extent to which you believe the statement applies to you. For all items a response from 1 to 7 is required. Use the number that best reflects your belief when the scale is defined as follows:

- 1 = The statement doesn't apply to me at all  
 2 = The statement usually doesn't apply to me  
 3 = Most often, the statement does not apply  
 4 = I am unsure about whether or not the statement applies to me, or it applies to me about half the time  
 5 = The statement applies more often than not  
 6 = The statement usually applies to me  
 7 = The statement always applies to me

doesn't usually often unsure or applies often usually always  
 at all doesn't doesn't half the time does does does

1. I prefer a job where I have a lot of control over what I do and when I do it. 1-----2-----3-----4-----5-----6-----7
2. I enjoy political participation because I want to have as much of a say in running government as possible. 1-----2-----3-----4-----5-----6-----7
3. I try to avoid situations where someone else tells me what to do. 1-----2-----3-----4-----5-----6-----7
4. I would prefer to be a leader rather than a follower. 1-----2-----3-----4-----5-----6-----7
5. I enjoy being able to influence the actions of others. 1-----2-----3-----4-----5-----6-----7
6. I am careful to check everything on an automobile before I leave for a long trip. 1-----2-----3-----4-----5-----6-----7
7. Others usually know what is best for me. 1-----2-----3-----4-----5-----6-----7
8. I enjoy making my own decisions. 1-----2-----3-----4-----5-----6-----7

doesn't usually often unsure or applies often usually always  
at all doesn't doesn't half the time does does does

9. I enjoy having control over my own destiny. 1-----2-----3-----4-----5-----6-----7
10. I would rather someone else take over the leadership role when I'm involved in a group project. 1-----2-----3-----4-----5-----6-----7
11. I consider myself to be generally more capable of handling situations than others are. 1-----2-----3-----4-----5-----6-----7
12. I'd rather run my own business and make my own mistakes than listen to someone else's orders. 1-----2-----3-----4-----5-----6-----7
13. I like to get a good idea of what a job is all about before I begin. 1-----2-----3-----4-----5-----6-----7
14. When I see a problem, I prefer to do something about it rather than sit by and let it continue. 1-----2-----3-----4-----5-----6-----7
15. When it comes to orders, I would rather give them than receive them. 1-----2-----3-----4-----5-----6-----7
16. I wish I could push many of life's daily decisions off on someone else. 1-----2-----3-----4-----5-----6-----7
17. When driving, I try to avoid putting myself in a situation where I could be hurt by another person's mistake. 1-----2-----3-----4-----5-----6-----7
18. I prefer to avoid situations where someone else has to tell me what it is I should be doing. 1-----2-----3-----4-----5-----6-----7
19. There are many situations in which I would prefer only one choice rather than having to make a decision. 1-----2-----3-----4-----5-----6-----7
20. I like to wait and see if someone else is going to solve a problem so that I don't have to be bothered by it. 1-----2-----3-----4-----5-----6-----7

Appendix D  
Oblimin Factor Structure of the Common Elements of Change Questionnaire

Items	Factors		
	I	II	III
1. A new view or perspective of oneself is necessary.	-.03	.33	.02
2. Gaining a new perspective of the problem or stressful situation is necessary.	.26	.16	-.00
3. A new perspective or restructuring of the world in general is necessary.	-.07	.05	.37
4. Effort or will is necessary.	.63	.02	-.12
5. A goal or plan is necessary.	.49	.07	.06
6. A sense of necessity for change is necessary.	.26	.47	-.24
7. A willingness to experience anxiety or difficulty is necessary.	.19	.22	.04
8. Facing-up or confronting the problem or stressful situation is necessary.	.71	-.10	-.03
9. Stepping back or detaching oneself from the problem or stressful situation is necessary.	.12	.05	.07
10. Release of tension or emotion is necessary.	.38	-.23	.41
11. A sense of being released or freed from a problem or burden is necessary.	.24	-.20	.45
12. Becoming aware or conscious of the problem or stressful situation is necessary.	.49	.03	-.02
13. A sense of freedom to pursue options is necessary.	.44	-.01	.34
14. Becoming more tolerant or accepting of a particular person, situation, or problem is necessary.	.02	.06	.60
15. Experiencing a sense of becoming more yourself is necessary.	.02	-.08	.75
16. Insight or understanding is necessary.	.29	.17	.31
17. A sense of mastery is necessary.	.19	.14	.36
18. A greater or enhanced sense of meaning is necessary.	-.07	.33	.55
19. A change in thoughts or thinking about a problem or situation is necessary.	-.02	.64	.14
20. Problem solving is necessary.	.35	.24	.13
21. Making a decision to change is necessary.	.09	.63	-.11
22. The influence of hope (hope of change) is necessary.	.28	.29	.25
23. Belief in one's own capability of overcoming a problem or stressful situation is necessary.	.48	-.06	.34
24. Changing a behavior (self-determined behavior change) is necessary.	-.04	.49	.16

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